

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE		PAGE 1 OF 1		
2. AMENDMENT/MODIFICATION NO. 0001		3. EFFECTIVE DATE 6 AUGUST 04		4. REQUISITION/PURCHASE REQ. NO.		5. PROJECT NO. (If applicable)	
6. ISSUED BY		CODE		7. ADMINISTERED BY (If other than Item 6)		CODE	
LOS ANGELES DISTRICT, COE CESPL-CT-WEST REGION ATTN: JULIE AYALA P.O. BOX 532711, LOS ANGELES, CA 90053-2325				SEE BLOCK 6			
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)				(✓)		9A. AMENDMENT OF SOLICITATION NO.	
				X		W912PL-04-R-0022	
						9B. DATED (SEE ITEM 11) 19 JULY 04	
						10A. MODIFICATION OF CONTRACTS/ORDER NO.	
						10B. DATED (SEE ITEM 13)	
CODE		FACILITY CODE					

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☒ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended, ☒ is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing Items 8 and 15, and returning 1 copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

(✓)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☐ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
MADRONA LATERAL RECYCLED WATER PIPELINE (LATERAL 6A), WEST BASIN MUNICIPAL WATER DISTRICT RECYCLED WATER SYSTEM, LOS ANGELES COUNTY. CALIFORNIA.

- FILE REVML6A_1.exe has the amended .cal files and a .txt file for the amended drawings only. The files which are not amended are in addition to the amended files.
- FILE 912P4R22_1.pdf has the amended .pdf files only. The files which are not amended are in addition to the amended files.
- FILE Q&R_1.pdf has contractors comments and government responses.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)	
15B. CONTRACTOR/OFFEROR		16B. UNITED STATES OF AMERICA	
(Signature of person authorized to sign)		BY (Signature of Contracting Officer)	
15C. DATE SIGNED		16C. DATE SIGNED	

INSTRUCTIONS

Instructions for items other than those that are self-explanatory, are as follows:

(a) Item 1 (Contract ID Code). Insert the contract type identification code that appears in the title block of the contract being modified.

(b) Item 3 (Effective date).

- (1) For a solicitation amendment, change order, or administrative change, the effective date shall be the issue date of the amendment, change order, or administrative change.
- (2) For a supplemental agreement, the effective date shall be the date agreed to by the contracting parties.
- (3) For a modification issued as an initial or confirming notice of termination for the convenience of the Government, the effective date and the modification number of the confirming notice shall be the same as the effective date and modification number of the initial notice.
- (4) For a modification converting a termination for default to a termination for the convenience of the Government, the effective date shall be the same as the effective date of the termination for default.
- (5) For a modification confirming the contracting officer's determination of the amount due in settlement of a contract termination, the effective date shall be the same as the effective date of the initial decision.

(c) Item 6 (Issued By). Insert the name and address of the issuing office. If applicable, insert the appropriate issuing office code in the code block.

(d) Item 8 (Name and Address of Contractor). For modifications to a contract or order, enter the contractor's name, address, and code as shown in the original contract or order, unless changed by this or a previous modification.

(e) Items 9, (Amendment of Solicitation No.-Dated), and 10, (Modification of Contract/Order No.-Dated). Check the appropriate box and in the corresponding blanks insert the number and date of the original solicitation, contract, or order.

(f) Item 12 (Accounting and Appropriation Data). When appropriate, indicate the impact of the modification on each affected accounting classification by inserting one of the following entries:

- (1) Accounting classification
Net increase \$.....

(2) Accounting classification
Net decrease \$.....

NOTE: If there are changes to multiple accounting classifications that cannot be placed in block 12, insert an asterisk and the words "See continuation sheet".

(g) Item 13. Check the appropriate box to indicate the type of modification. Insert in the corresponding blank the authority under which the modification is issued. Check whether or not contractor must sign this document. (See FAR 43.103.)

(h) Item 14 (Description of Amendment/Modification).

(1) Organize amendments or modifications under the appropriate Uniform Contract Format (UCF) section headings from the applicable solicitation or contract. The UCF table of contents, however, shall not be set forth in this document.

(2) Indicate the impact of the modification on the overall total contract price by inserting one of the following entries:

- (i) Total contract price increased by \$.....
- (ii) Total contract price decreased by \$.....
- (iii) Total contract price unchanged.

(3) State reason for modification.

(4) When removing, reinstating, or adding funds, identify the contract items and accounting classifications.

(5) When the SF 30 is used to reflect a determination by the contracting officer of the amount due in settlement of a contract terminated for the convenience of the Government, the entry in Item 14 of the modification may be limited to -

- (i) A reference to the letter determination; and
- (ii) A statement of the net amount determined to be due in settlement of the contract.

(6) Include subject matter or short title of solicitation/contract where feasible.

(i) Item 16B. The contracting officer's signature is not required on solicitation amendments. The contracting officer's signature is normally affixed last on supplemental agreements.

SECTION 00010

BID SCHEDULE

PART 1 GENERAL

1.1 BASIS OF BIDS

1.1.1 Unit Price Schedule

This contract will be awarded as one lump sum with unit prices required for specifically selected work. A schedule of the unit price work is contained in Standard Form SF 1442, "Solicitation, Offer and Award." See Contract Clauses, "FAR 52.211-18, Variation in Estimated Quantity" and "FAR 52.236-16, Quantity Surveys (Alternate I)," "DFARS.236-7008, Contract Prices."

Basis of Bid for each item shall be the Total Amount for each item, complete in accordance with the drawings and specifications.

BASE BID:

Item	Description	Estimated Quantity	Unit	Unit Price	Amount
1	Mobilization and Demobilization	1	Job	Lump Sum	\$_____
2	Removal and Replacement of AC Pavement and Aggregate Base Course	83,236	SF	\$_____	\$_____
3	Removal and Replacement of PCC Pavement and Aggregate Base Course	8,640	SF	\$_____	\$_____
4	Construct 24-inch Steel Pipe	15,132	LF	\$_____	\$_____
5	45-inch Diameter Bore and Jack	140	LF	\$_____	\$_____
6	Construct 12-inch PVC Pipe	65	LF	\$_____	\$_____
7	Construct 6-inch PVC Pipe	170	LF	\$_____	\$_____

*8 DELETED

*9 Construct 2-inch Air Release and Vacuum Valve Assembly	9	EA	\$_____	\$_____
*10 Construct 4-inch Blow Off Assembly	10	EA	\$_____	\$_____
11 Construct Cathodic Protection	1	Job	Lump Sum	\$_____
12 Remove and Replace Concrete Sidewalk, Cross Gutters, Spandrels, and Gutter	1	Job	Lump Sum	\$_____
13 Tie In Connection to Existing 30-inch Ductile Iron Pipe	1	Job	Lump Sum	\$_____
14 Hydrostatic Testing and Disinfection	1	Job	Lump Sum	\$_____
15 Traffic Control	1	Job	Lump Sum	\$_____
16 Perform Exploratory Borings of Utilities Not Potholed During Design	30	EA	\$_____	\$_____
16.1 A-Built CADD Drawings	1	Job	Lump Sum	\$_____

Base Bid Subtotal Amount \$_____

OPTION 1:

Item	Description	Estimated Quantity	Unit	Unit Price	Amount
17	Mobilization and Demobilization	1	Job	Lump Sum	\$_____
18	Removal and Replacement of AC Pavement and Aggregate Base Course	20,885	SF	\$_____	\$_____
19	Construct 8-inch PVC Pipe	4,123	LF	\$_____	\$_____
20	Construct 6-inch PVC Pipe	60	LF	\$_____	\$_____

21 Construct 1-inch Air Release and Vacuum Valve Assembly	3	EA	\$_____	\$_____
*22 Construct 4-inch Blow Off Assembly	3	EA	\$_____	\$_____
23 Remove and Replace Concrete Sidewalk, Cross Gutters, Spandrels, and Gutter	1	Job	Lump Sum	\$_____
24 Hydrostatic Testing and Disinfection	1	Job	Lump Sum	\$_____
25 Traffic Control	1	Job	Lump Sum	\$_____
26 Perform Exploratory Borings of Utilities Not Potholed During Design	5	EA	\$_____	\$_____
26.1 As-Built CADD Drawings	1	Job	Lump Sum	\$_____
Option 1 Subtotal Amount				\$_____

OPTION 2:

Item	Description	Estimated Quantity	Unit	Unit Price	Amount
27	Mobilization and Demobilization	1	Job	Lump Sum	\$_____
28	Removal and Replacement of AC Pavement and Aggregate Base Course	3,755	SF	\$_____	\$_____
29	Construct 4-inch PVC Pipe	835	LF	\$_____	\$_____
29.1	Construct 4-inch Ductile Iron Pipe	40	LF	\$_____	\$_____
30	Construct 1-inch Air Release and Vacuum Valve Assembly	1	EA	\$_____	\$_____

*31 Construct 4-inch Blow Off Assembly	1	EA	\$_____	\$_____
32 Remove and Replace Concrete Sidewalk, Cross Gutters, Spandrels, and Gutter	1	Job	Lump Sum	\$_____
33 Hydrostatic Testing and Disinfection	1	Job	Lump Sum	\$_____
34 Traffic Control	1	Job	Lump Sum	\$_____
35 Perform Exploratory Borings of Utilities Not Potholed During Design	5	EA	\$_____	\$_____
35.1 As-Built CADD Drawings	1	Job	Lump Sum	\$_____

Option 2 Subtotal Amount \$_____

OPTION 3:

Item	Description	Estimated Quantity	Unit	Unit Price	Amount
36	Mobilization and Demobilization	1	Job	Lump Sum	\$_____
37	Removal and Replacement of AC Pavement and Aggregate Base Course	8,545	SF	\$_____	\$_____
38	Construct 6-inch PVC Pipe	1,858	LF	\$_____	\$_____
39	Construct 1-inch Air Release and Vacuum Valve Assembly	2	EA	\$_____	\$_____
40	Remove and Replace Concrete Sidewalk, Cross Gutters, Spandrels, and Gutter	1	Job	Lump Sum	\$_____
41	Hydrostatic Testing and Disinfection	1	Job	Lump Sum	\$_____

42	Traffic Control	1	Job	Lump Sum	\$_____
43	Perform Exploratory Borings of Utilities Not Potholed During Design	5	EA	\$_____	\$_____
43.1	As-Built CADD Drawings	1	Job	Lump Sum	\$_____

Option 3 Subtotal Amount \$_____

OPTION 4:

Item	Description	Estimated Quantity	Unit	Unit Price	Amount
44	Mobilization and Demobilization	1	Job	Lump Sum	\$_____
45	Removal and Replacement of AC Pavement and Aggregate Base Course	11,907	SF	\$_____	\$_____
46	Construct 4-inch PVC Pipe	2,690	LF	\$_____	\$_____
47	Construct 1-inch Air Release and Vacuum Valve Assembly	3	EA	\$_____	\$_____
*48	Construct 4-inch Blow Off Assembly	3	EA	\$_____	\$_____
49	Remove and Replace Concrete Sidewalk, Cross Gutters, Spandrels, and Gutter	1	Job	Lump Sum	\$_____
50	Hydrostatic Testing and Disinfection	1	Job	Lump Sum	\$_____
51	Traffic Control	1	Job	Lump Sum	\$_____
52	Perform Exploratory Borings of Utilities Not Potholed During Design	5	EA	\$_____	\$_____
52.1	As-Built CADD Drawings	1	Job	Lump Sum	\$_____

RFP NO. W912PL-04-R-0022, MADRONA LATERAL RECYCLED WATER PIPELINE,
(LATERAL 6A)

LOS ANGELES COUNTY, CALIFORNIA

**SECTION 00110
PROPOSAL SUBMISSION REQUIREMENTS**



**UNITED STATES ARMY
CORPS OF ENGINEERS
LOS ANGELES DISTRICT**

TABLE OF CONTENTS

1.	*GENERAL.....	1
2.	OFFER REQUIREMENTS AND SUBMISSION FORMAT	1
2.1	*Past Performance.....	2
2.2	Qualifications of Key Personnel.....	3
2.3	Technical Narrative.....	3
	2.3.1 <i>Recycled Water Pipeline Construction Process</i>	4
	2.3.2 <i>Environmental Protection</i>	5
2.4	Management Plan	5
	2.4.1 <i>Quality Control Plan</i>	5
	2.4.2 <i>Safety Plan</i>	5
	2.4.3 <i>Closeout Plan</i>	6
	2.4.4 <i>Schedule</i>	6
2.5	Pro-Forma Submittal Requirements.	7

**RFP NO. W912PL-04-R-0022 , MADRONA LATERAL RECYCLED WATER PIPELINE,
(LATERAL 6A)
LOS ANGELES COUNTY, CALIFORNIA
Proposal Submission Requirements**

1. GENERAL

*The intent of this Request for Proposal is to solicit proposals for the Construction of the Madrona Lateral Recycled Water Pipeline – Lateral 6A in Los Angeles County, California. The recycled water transmission pipeline will be tied into an existing 30-inch ductile iron recycled water main. The recycled water transmission pipeline will be constructed entirely within City of Torrance paved streets. The Offeror shall have experience with the installation of recycled water pipelines and/or water transmission pipelines that range between 30-inch to 4-inch in diameter and that consist of materials such as cement mortar lined (CML) & tape wrapped steel, and American Water Works Association (AWWA) C-900 Class 200 polyvinyl-chloride (PVC). The Offeror shall preferably have experience in at least five (5) projects with the characteristics described above. Each project cited is preferred to have a construction cost above \$1 Million. The Offeror shall have experience with piping installation of large diameter (greater than 16-inch diameter) below grade piping cathodic protection systems, below grade assemblies, blow offs, air/vacuum assemblies, large diameter (greater than 20-inch diameter) jack and bore operations, surface restoration, related piping appurtenances, and traffic control provisions. The successful Contractor shall construct this Recycled Water Pipeline to conform to the solicitation plans and specifications.

In order to effectively and equitably evaluate all Offerors, the Source Selection Evaluation Board (SSEB) must receive information sufficiently detailed to clearly describe the Offeror's past performance, qualifications of key individuals and construction approach to successfully complete this project.

Offerors shall organize their Technical Proposal as described and outlined hereinafter. Failure to follow this format may result in the proposal being misinterpreted and could result in a lower overall ranking for such proposal. The Technical Proposals shall be in 8-1/2" x 11" format, single-sided or double-sided pages acceptable. Exhibit drawings may be folded, accordion style, and shall be no more than 11" tall. Condensed print (10 Font or less) is not permitted. The Proposals shall be sequentially numbered on each page. The exhibit drawings may be excluded from the maximum page limitation of the Technical Narrative. Offerors are advised that the required data within the technical portion of the proposals will be evaluated, most specifically with respect to Section 00120, PROPOSAL EVALUATION SYSTEM, and Section 01010, PROJECT SYNOPSIS. The proposals will be reviewed for technical acceptability based upon the Request For Proposal (RFP) technical requirements prior to evaluation.

OFFER REQUIREMENTS AND SUBMISSION FORMAT

The offers sought by this Request for Proposal shall submit 9 copies and shall contain five categories of submittal information as follows: (1) past performance on similar projects, (2) qualifications of key individuals, (3) technical narrative, (4) management plan, and (5) Pro-forma requirements. The below listed requirements shall be submitted in separate packaging as follows: Sections 1, 2, and 4 shall be submitted in one single three ring binder. Section 3 shall be submitted and packaged separately. Section 5 shall be submitted and packaged separately. *Offeror must provide 1 CD Rom disk of their technical proposal with their submittal.*

**RFP NO. W912PL-04-R-0022 , MADRONA LATERAL RECYCLED WATER PIPELINE,
(LATERAL 6A)
LOS ANGELES COUNTY, CALIFORNIA
Proposal Submission Requirements**

Section	Max. No. of Pages	No. of Copies
1) Past Performance	12 (including graphics and exhibits)	9
2) Qualification of Key Personnel	5	
4) Management Plan	5 (excluding schedule and exhibits)	
3) Technical Narrative	5 (excluding exhibits)	9
5) Pro-forma requirements	N/A	1 original and 3 copies

1.1 Past Performance

Provide information in response to this subfactor on no more than five (5) similar projects total which best demonstrate the capability of the Offeror's proposed project team to successfully complete the project. The Offeror shall provide information pertaining to the Offeror's experience on self-performed work and management of work performed by subcontractors. If the Offeror is proposing to subcontract any portion of the construction effort for this procurement, provide information pertaining to the Offeror's key construction subcontractor's experience.

- A. Submit only recent projects (i.e., projects for which the construction was physically completed/accepted by the customer no more than five years ago, or which are nearing completion).
- B. Submit only relevant projects (i.e., construction projects similar in type, scope, size, dollar value, and/or complexity).
- C. *The Government is most interested in projects which demonstrate the team's experience with the following: installation of recycled water pipelines and/or water transmission pipelines that range between 30-inch to 4-inch in diameter and that consist of materials such as CML & tape wrapped steel, ductile iron, and AWWA C-900 Class 200 PVC, installation of cathodic protection systems, meter services, below grade assemblies, blow offs, air/vacuum assemblies, jack and bore operations, surface restoration, other related appurtenances, familiarity with construction requirements in the project area, and traffic control provisions.

In your discussion of the relevance of the referenced project to the current acquisition, provide detailed, specific information, such as:

- The type, size and location of the facility;
- The type, material, length, and size of the pipelines;
- The primary method(s) of construction utilized;
- The use of similar construction techniques for the facility;
- The construction cost of the project;

**RFP NO. W912PL-04-R-0022 , MADRONA LATERAL RECYCLED WATER PIPELINE,
(LATERAL 6A)
LOS ANGELES COUNTY, CALIFORNIA
Proposal Submission Requirements**

- The length of the performance period and any related project phasing considerations and description on how delay was minimized or avoided;
 - Any other information necessary for the Government to determine the relevance of the referenced project to the current acquisition.
- D. You are limited to a maximum of two (2) -pages for each project and a maximum of twelve (12) total pages, including any optional graphic/visual representation(s) of the referenced project. Each referenced project shall begin on a new page.

1.2 Qualifications of Key Personnel

Provide in detail the list and experience of the key personnel proposed for this project that will perform the following functions: construction quality control personnel, construction superintendent(s), and subcontractors, the Offeror intends to use. Any substitutions in key personnel after award shall require Contracting Officer's prior approval. Information provided should consider and include the following:

- Full name
- Years of experience
- Professional backgrounds and education
- Professional and contractor's licenses
- Length of service with your organization
- Other companies employed by in the past including time frames
- Project related experience including time frames and brief project descriptions, including pipeline construction experience

The format for the presentation of key personnel experience shall be in general compliance with the format used on SF 255. Although there are no page limitations on each person's individual experience statement, there is a five (5) page limitation for these criteria. Include description of applicable design and construction considerations. Specifically include experience with construction of similar facilities similar to the proposed project.

Further, provide a narrative introduction, along with an organization chart, a description of the Offeror's experience of working with the proposed construction team on previous contracts. The offeror must also include a statement that verifies the availability of key team members for the duration of the contract and what actions would be taken to replace key personnel if they are not available.

1.3 Technical Narrative

This information will be used to demonstrate the Offerors understanding of the project scope of the work, the proposed construction method to be used and the

**RFP NO. W912PL-04-R-0022 , MADRONA LATERAL RECYCLED WATER PIPELINE,
(LATERAL 6A)
LOS ANGELES COUNTY, CALIFORNIA
Proposal Submission Requirements**

measures to be taken to protect the environment and minimize construction impacts. The written narrative shall not exceed five (5) pages, exclusive of exhibits. The following information, as a minimum, should be provided.

1.3.1 Recycled Water Pipeline Construction Process

Provide a descriptive narrative describing the construction process. The narrative should, at a minimum, address the following:

- The tie-in connection to existing recycled water pipeline.
- Handling of hazardous and/or unsuitable material
- Pavements construction
- Compliance with construction specifications and local agency criteria.
- Address considerations for the follow on Phase 2 construction.
- Noise reduction within workspaces (AICUZ)
- Measures to prevent delays.
- Maintenance and notification of traffic control measures during construction.
- Describe any temporary access roadways needed for construction and methods of distributing information of closures and/or detouring.
- Describe how access will be provided to the construction site and how the proposed laydown and storage area will not interfere with adjacent operations.
- Describe where the major construction materials (concrete, steel, etc.) will be obtained and if there are any significant challenges expected in obtaining these materials and having them delivered to the job site.
- Proposed awareness programs
- Quality assurance/Quality Control implementation.
- Permitting process approval.
- Local agency coordination.
- Safety plan implementation.

**RFP NO. W912PL-04-R-0022 , MADRONA LATERAL RECYCLED WATER PIPELINE,
(LATERAL 6A)
LOS ANGELES COUNTY, CALIFORNIA
Proposal Submission Requirements**

1.3.2 Environmental Protection

Provide a narrative addressing how the Offeror will meet the conditions contained in the Environment Protection section of the RFP to include Stormwater pollution prevention plan implementation.

- Environmental compliance to include air quality, water quality, noise, biological resources, cultural resources, solid waste and hazardous waste

1.4 Management Plan

Offerors shall provide a Management Plan showing how the Offeror will control the job. In addition to the Management Plan, Offerors shall include the following subplans: Quality Control Plan, Safety Plan, and Contract Closeout Plan. Provide in detail the organization's plan to coordinate and control this project within the requirements of this RFP. Provide in detail the organization's plan to manage, coordinate, integrate, control, and document the construction of this project within the requirements of this RFP. Detail the construction management strategy and tactics to ensure quality workmanship, schedule conformance, cost control, labor management and allocation, timely submittals, and subcontractor performance.

1.4.1 Quality Control Plan

Describe the proposed quality control organization for construction. Include a chart showing lines of authority that the quality control staff shall follow in conducting the review and inspections for all aspects of the work specified and the methods used to report to the project manager or someone higher in the Contractor's organization. Provide the name, duties, responsibilities, and authority of each person assigned a quality control function for Construction.

Describe the personnel and roles proposed for compliance with Section 01451, CONTRACTOR QUALITY CONTROL (CQC).

1.4.2 Safety Plan

Describe the proposed safety program/organization for the construction of this project. Include a chart showing lines of authority that the safety staff shall follow in conducting the safety education, monitoring, advising, and enforcement of the safety practices for the organization. Provide information about incentive programs that will be used to promote a safe work place and work practices. Provide information about safety training programs, to include the handling of hazardous materials on the job-site. Provide a list of personnel, their education and formal training, and their experience as safety officers/enforcers. Provide a narrative of the organization safety practices used to ensure a safe working environment

**RFP NO. W912PL-04-R-0022 , MADRONA LATERAL RECYCLED WATER PIPELINE,
(LATERAL 6A)
LOS ANGELES COUNTY, CALIFORNIA
Proposal Submission Requirements**

including the handling of accidents and injuries. Provide a narrative of intent for ensuring public safety during the course of construction.

1.4.3 Closeout Plan

A Closeout Plan shall be furnished in a brief structured time scale schedule reflecting the planned activities during the final 90 days of the contract activity. Items to be included are as follows:

- Testing cathodic protection and mechanical equipment.
- Record drawings transfer.
- Pre-Final inspection procedures and correction of deficiencies.
- Warranty data submission and planned implementation.
- Cleanup of administrative deficiencies.
- Move off site.

1.4.4 Schedule

Provide a narrative, describing your scheduling capability and planning organization. Address how you will maintain, update and use your schedule. Describe the equipment and software/hardware you intend to use. Submit a preliminary schedule for construction. The preliminary schedule will, after contract award, be replaced with a final schedule as required in the Construction Special clause, Contractor-Prepared Network Analysis System. The schedule shall be task oriented, indicating the number of calendar days, after notice to proceed, by which milestones are to be achieved. Offeror shall use a critical path method (CPM) Network Analysis System. Give special attention to the following features:

- Show the construction phase of the recycled water transmission main to include: potholing, permitting, submittals, meetings, material procurement, pipe layout, surface repair, testings, tie-in, and final project completion
- Identify all “fast-tracking” of construction.
- Identify requirements indicated in the Close Out Plan listed above.

Offeror must demonstrate the capability and flexibility to plan and schedule the complete project to meet the proposed contract completion date. Clearly identify any constraints on the schedules presented. Indicate the anticipated critical path on the schedule.

Both parties shall presume that field overhead costs through the contract duration are inclusive in the offered price for the entire contract duration, regardless of whether a compressed schedule is proposed.

The offeror’s proposed schedule duration shall become the project schedule duration and shall be incorporated into the contract. Liquidated damages as stated in the Government schedule will also apply to the accepted Offeror’s schedule duration.

**RFP NO. W912PL-04-R-0022 , MADRONA LATERAL RECYCLED WATER PIPELINE,
(LATERAL 6A)
LOS ANGELES COUNTY, CALIFORNIA
Proposal Submission Requirements**

Offeror's are cautioned that if they do not meet the schedule completion times shown in Section 00800-1, Paragraph 1, of this Request for Proposal, and include the required design submittals and Government review times, their Technical Proposals may be considered unacceptable.

1.5 Pro-Forma Submittal Requirements.

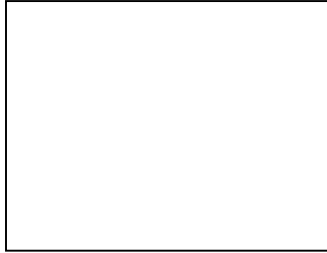
This information shall be submitted in a separate package from other requirements. All Pro-Forma, requirements shall include a Signed RFP Acknowledgement Form, Pricing schedule, and Acknowledgement of all Amendments and subcontracting plan (Large Business only). The Pro-Forma requirements shall be submitted and package separately from the Technical Proposal. Submit one original and three copies of the aforementioned pro-forma requirement.

This information is required for the initial and, if required, for any revised proposals.

END OF SECTION

**RFP NO. W912PL-04-R-0022 , MADRONA LATERAL RECYCLED WATER PIPELINE,
(LATERAL 6A)
LOS ANGELES COUNTY, CALIFORNIA**

Request For Proposals



**SECTION 00120
PROPOSAL EVALUATION SYSTEM**

TABLE OF CONTENTS

1.	SOURCE SELECTION USING THE TRADE-OFF PROCESS	1
2.	RELATIVE IMPORTANCE OF PRICE TO THE TECHNICAL EVALUATION FACTORS	1
3.	EVALUATION OF THE PRICE PROPOSAL.....	1
4.	LIST OF THE TECHNICAL EVALUATION FACTORS AND SUBFACTORS (OVERVIEW).....	1
4.1	*Factor 1: Past Performance.....	1
4.2	Factor 2: Qualifications of Key Personnel	2
4.3	Factor 3: Technical Narrative	2
4.4	Factor 4: Management Plan	2
5.	THE RELATIVE WEIGHTS OF THE TECHNICAL EVALUATION FACTORS AND SUBFACTORS.....	3
5.1	Relative Importance of the Technical Evaluation Factors and Subfactors	3
6.	GENERAL EVALUATION CRITERIA	3
7.	SPECIFIC TECHNICAL EVALUATION CRITERIA PERTAINING TO THE TECHNICAL EVALUATION FACTORS AND SUBFACTORS	4
7.1	Factor 1: Past Performance (All Subfactors).....	4
7.1.1	<i>Factor 1: Past Performance–Subfactors 1a, 1b, 1c, 1d, 1e, 1f, 1g, and 1h.</i>	5
7.2	Factor 2: Qualifications of Key Personnel – all Subfactors.....	6
7.3	Factor 3: Technical Narrative & Elevation	6
7.3.1	<i>Subfactors 3a and 3b: Project Understanding and Construction Process</i>	6
7.3.2	<i>Subfactor 3c: Environmental Protection During Construction</i>	6
7.4	Management Plan	6
7.4.1	<i>Subfactor 4a: Scheduling</i>	6
7.4.2	<i>Subfactor 4b through 4h: Project Management Plan, Safety Plan, Quality Control Plan and Closeout Plan</i>	7

**RFP NO. W912PL-04-R-0022 , MADRONA LATERAL RECYCLED WATER PIPELINE,
(LATERAL 6A)
LOS ANGELES COUNTY, CALIFORNIA
Construction Request For Proposals**

1. SOURCE SELECTION USING THE TRADE-OFF PROCESS

The Government will select the offer that represents the best value to the Government by using the trade-off process described in FAR Part 15. This process permits tradeoffs between price and technical merit/quality and allows the Government to accept other than the lowest priced offer or highest technically evaluated. The award decision will be based on a comparative assessment of proposals against all source selection criteria in the solicitation.

2. RELATIVE IMPORTANCE OF PRICE TO THE TECHNICAL EVALUATION FACTORS

All non-price (i.e., technical) evaluation factors, when combined, are approximately equal to price. The Government is concerned with striking the most advantageous balance between technical merit (i.e., quality) and price to the Government (i.e., the price). The degree of importance of price could become greater depending upon the equality of the proposals for the non-price technical evaluation factors. Where competing Technical Proposals are determined to be substantially equal, price could become the controlling factor.

3. EVALUATION OF THE PRICE PROPOSAL

Price to the Government will be evaluated and considered but will not be scored or combined with other aspects of the evaluation. The proposed price will be analyzed for reasonableness. It may also be analyzed to determine whether it is realistic for the work to be performed; reflects a clear understanding of the requirements; and is consistent with the offerors Technical Proposal. All offers with separately priced line items or sub line items will be analyzed for unbalanced pricing.

4. LIST OF THE TECHNICAL EVALUATION FACTORS AND SUBFACTORS (OVERVIEW)

The Technical Proposal will be evaluated based on the following technical evaluation factors and subfactors.

4.1 *Factor 1: Past Performance

Subfactors

- 1a) Experience in pipeline projects of similar cost, size, location, and materials.
- 1b) Experience in the construction of large diameter pipelines (greater than 16 inch diameter), jack and bore operations (greater than 20-inch), fittings, below grade assemblies, meter services, blow-offs, air/vacuum assemblies, cathodic protection systems, surface restoration, related piping appurtenances, construction requirements, and traffic control provisions.

**RFP NO. W912PL-04-R-0022 , MADRONA LATERAL RECYCLED WATER PIPELINE,
(LATERAL 6A)
LOS ANGELES COUNTY, CALIFORNIA
Construction Request For Proposals**

- 1c) The methods of construction utilized.
- 1d) The length of the performance period and any related project phasing considerations.
- 1e) Description of time optimization and how delays were minimized or avoided.
- 1f) Environmental – experience in meeting conditions contained within previous project environmental requirements.
- 1g) Experience in developing and executing storm water prevention plans
- 1h) Implementation of quality control measures.

4.2 Factor 2: Qualifications of Key Personnel

Subfactors

- 2a) Years of Experience
- 2b) Experience in the construction of water or recycled water pipelines
- 2c) Professional Backgrounds and Education
- 2d) Professional and contractor's licenses
- 2e) Length of service in your organization
- 2f) Other companies employed by in the past including time frames
- 2g) Project related experience including time frames and brief project description, including pipeline construction experience.
- 2h) List the names of the subcontractors you intend to use, their roles, their experience, and your previous experience working with them.

4.3 Factor 3: Technical Narrative

Subfactors

- 3a) Provide project understanding narrative.
- 3b) Describe proposed pipeline construction procedures and management control.
- 3c) Environmental requirements and execution procedure during construction.

4.4 Factor 4: Management Plan

Subfactors

- 4a) Contractor schedule
- 4b) Contractor material assurance

**RFP NO. W912PL-04-R-0022 , MADRONA LATERAL RECYCLED WATER PIPELINE,
(LATERAL 6A)
LOS ANGELES COUNTY, CALIFORNIA
Construction Request For Proposals**

- 4c) Contractor coordination and communication channels
- 4d) Contractor cost control management plan
- 4e) Contractor processes to ensure quality workmanship.
- 4f) Contractor management plan, safety plan, quality control plan and closeout plan.

5. THE RELATIVE WEIGHTS OF THE TECHNICAL EVALUATION FACTORS AND SUBFACTORS

The Relative Weighting of the Factors and Subfactors: All non-price evaluation factors, when combined, are approximately equal to price.

5.1 Relative Importance of the Technical Evaluation Factors and Subfactors

- A. Factor 1 and 2 are the most important. Factors 3 and 4 are equally important.
- B. Subfactors 1a, 1,b, 2a, and 2b are most important.

6. GENERAL EVALUATION CRITERIA

Risk to the Government will be evaluated in accordance with FAR 15. Proposal risk is an assessment of the weaknesses and risks associated with the offerors' proposed approach derived from the technical evaluation. Performance risk is an assessment of the offerors demonstrated performance on recent, relevant contracts relative to the past performance subfactor.

The Offerors conformance with the specified format and submission requirements will be considered during the technical evaluation. Failure to comply with the format and/or the submission requirements may be seen as indicative of the type of problems that could be expected during contract performance. Lack of conformance could therefore result in a higher risk rating, in addition to any other impacts on the evaluation. Proposals, which do not provide the specified information in the specified location, may be downgraded. Substantial failure(s) and/or material omissions(s) may cause the proposal to be rejected as unacceptable.

Responses, which are generic, vague, or lacking in detail, will be downgraded.

Page Limitations: Limits prescribed for specific submissions, if any will be strictly adhered to and enforced. Information submitted which exceeds the specified limit will not be evaluated. (For example, if an Offeror were to submit three pages in response to an item with a two-page limitation, the information on the first and second pages would be evaluated but the information on the third page would not.)

The technical proposals will be reviewed for compliance with the technical specifications and applicable building codes and regulations. Non-compliance with the technical specifications and/or applicable building codes and/or regulations will be considered a deficiency.

**RFP NO. W912PL-04-R-0022 , MADRONA LATERAL RECYCLED WATER PIPELINE,
(LATERAL 6A)
LOS ANGELES COUNTY, CALIFORNIA
Construction Request For Proposals**

**7. SPECIFIC TECHNICAL EVALUATION CRITERIA PERTAINING TO THE
TECHNICAL EVALUATION FACTORS AND SUBFACTORS**

These evaluation factors establish standards of acceptability and desirability with regard to various features of design, engineering, and materials. The weighting of the evaluation factors takes into consideration not only how important that particular factor is to the overall project, but also the latitude left by the Request for Proposal for the Offeror to provide features that would be more advantageous to the Government. An evaluation of technical quality/technical merit is inherent in these criteria. Proposals, which exceed the minimum criteria or include desirable optional features, will therefore be rated higher than proposals, which only meet the minimum criteria in accordance with the perceived value of these features to the Government.

7.1 Factor 1: Past Performance (All Subfactors)

- A. The Government will evaluate past performance information to assess the risks associated with each Offeror's likelihood of success in performing the requirements stated in the solicitation based on that Offeror's demonstrated performance on recent, relevant contracts. The Government will focus on information that demonstrates quality of performance relative to the size and complexity of the procurement under consideration. Non-federal contracts are evaluated equally with federal contracts.
- B. The evaluation may take into consideration the Offeror's record of conformance to contract specifications and standards of good workmanship; the Offeror's adherence to contract schedule, including the administrative aspects of performance; and the Offeror's history of reasonable and cooperative behavior, commitment to customer satisfaction, and timely award and management of subcontracts.
- C. The evaluation may take into account the number and severity of problems, the demonstrated effectiveness of corrective actions taken, and the overall work record.
- D. For the purpose of the past performance evaluation, Offerors shall be defined as business arrangements and relationships, such as Joint Venture participants, teaming partners, and major (key) subcontractors. Each firm in the business arrangement may be evaluated on its performance under existing and prior contracts for similar projects, products, and services.
- E. The result will be a performance risk rating based on each Offeror's record of past performance.
- F. In conducting the performance risk assessment, the government may use data provided by the Offeror and data obtained from other sources, including automated databases and questionnaires. The Government may contact references other than those identified by the Offeror. The Government may also

**RFP NO. W912PL-04-R-0022 , MADRONA LATERAL RECYCLED WATER PIPELINE,
(LATERAL 6A)
LOS ANGELES COUNTY, CALIFORNIA
Construction Request For Proposals**

take into consideration the offeror's performance of contracts with the agency.

- G. Past performance information collected by the government may be used for both the responsibility determination for this acquisition and in conjunction with the technical evaluation.
- H. In the case of an Offeror without a record of relevant past performance (and for which there is also no relevant past performance information for its predecessor companies, key subcontractors, and key personnel), or for whom information on past performance is not available or cannot be verified, the Offeror will not be evaluated favorably or unfavorably on past performance. This does not preclude the Government from making award to a higher-priced Offeror with a favorable past performance record over a lower-priced Offeror with a neutral past performance rating.
- I. Generally, the Offeror's record of past performance on contracts, which are not considered by the Government to be both recent and relevant, will not be evaluated. However, the Offeror's record of past performance on such contracts may be utilized by the Government when appropriate (e.g., in lieu of giving the Offeror a neutral rating, if the offeror is not a new business entity and nonetheless has not provided information to the Government pertaining to recent, relevant contracts). However, if the past performance information available is not recent and/or for similar types of work, the Offeror may receive a higher, less favorable risk assessment rating for such projects.

7.1.1 Factor 1: Past Performance—Subfactors 1a, 1b, 1c, 1d, 1e, 1f, 1g, and 1h.

The government will evaluate the extent to which an offeror's specific experience (as demonstrated by the Offeror's response to this evaluation subfactor) is directly related to the work required by the Request for Proposal. Consideration will be given to whether the experience is considered recent and relevant; the degree to which it demonstrates experience with the utilization of similar construction techniques under similar working conditions; and whether the Offeror is relying on the specific experience of the proposed project team, subcontractors, and/or general corporate experience (i.e., projects performed by the Offeror, but not utilizing any of the project team members proposed for the current acquisition). The evaluation will also include an assessment of proposal risk.

**RFP NO. W912PL-04-R-0022 , MADRONA LATERAL RECYCLED WATER PIPELINE,
(LATERAL 6A)
LOS ANGELES COUNTY, CALIFORNIA
Construction Request For Proposals**

7.2 Factor 2: Qualifications of Key Personnel – all Subfactors

The information provided in response to this factor will be evaluated in terms of the degree to which it demonstrates compliance with any solicitation requirements pertaining to qualifications for specific positions; and the degree to which it demonstrates that the proposed key personnel have the knowledge, skills, and abilities to perform their duties in a manner that will ensure successful contract completion. The Government may also take into consideration whether the proposed key personnel are actually committed to contract performance and the estimated amount of time key personnel will devote to the proposed effort. The evaluation will also include an assessment of proposal risk.

7.3 Factor 3: Technical Narrative & Elevation

The Government will evaluate the offerors' understanding of the criteria, providing a higher degree of assurance that the offeror understands the scope of work and the proposal conforms to the RFP requirements. The narrative including exhibits and concept sketches shall clearly show the offerors' proposed construction features to be provided.

7.3.1 *Subfactors 3a and 3b: Project Understanding and Construction Process*

The information provided in response to this factor will be evaluated in terms of the degree to which it indicates compliance with all solicitation requirements. The narrative must correlate the proposed design to the construction process and schedule. The evaluation will also include an assessment of proposal risk.

Offeror has to demonstrate that he/she has the necessary knowledge, skills, and abilities to perform the work in a manner that will ensure successful contract completion. The evaluation will also include an assessment of proposal risk.

7.3.2 *Subfactor 3c: Environmental Protection During Construction*

The information provided in response to this factor will be evaluated in terms of the degree to which it indicates compliance with all solicitation requirements and demonstrates that the offeror has the necessary knowledge, skills, and abilities to perform the work in a manner that will ensure successful contract completion. The evaluation will also include an assessment of proposal risk.

7.4 Management Plan

7.4.1 *Subfactor 4a: Scheduling*

The information submitted will be evaluated to determine the extent to which it demonstrates the Offeror's understanding of the requirements of

**RFP NO. W912PL-04-R-0022 , MADRONA LATERAL RECYCLED WATER PIPELINE,
(LATERAL 6A)
LOS ANGELES COUNTY, CALIFORNIA
Construction Request For Proposals**

this project and the Offeror's ability to schedule and integrate the construction various tasks and close-out activities critical to meeting the offerors proposed contract performance schedule. As part of its evaluation, the Government may consider whether the Offeror's management approach to the scheduling/phasing of these major activities appears reasonable, realistic, and achievable. The Government may also consider whether the Offeror's management approach to scheduling/phasing of major activities reflects logical sequencing and progression of activities; inclusion of all of the important features of the work; appropriate milestones; incorporation of time for Government activities such as submittal review; and appropriate consideration of recognizable constraints, including material and equipment lead times and the impacts on construction activities of periods due to environmental constraints. Additionally, the Government may evaluate the Offeror's approach to identifying and correcting slippage in the schedule. The evaluation will consider the duration the work is performed. The evaluation will also include an assessment of proposal risk.

7.4.2 Subfactor 4b through 4h: Project Management Plan, Safety Plan, Quality Control Plan and Closeout Plan

The information provided in response to this subfactor will be evaluated in terms of the degree to which the plan demonstrates the soundness of the Offeror's proposed organization and management structure that will be set up for controlling this project, including lines of authority/responsibility and communications; compliance with the contract requirements pertaining to the Quality Control inspector; means by which quality control will be ensured during the life of the project (during design and construction); facilitation of early identification and resolution of problems; ability to respond promptly to changes; handling of warranty issues; corporate support and closeout plan. Evaluation will also consider contractor's proposed methodology for compliance with QCS/RMS requirements. The evaluation will also include an assessment of proposal risk.

END OF SECTION

Section 00600 - Representations & Certifications

52.203-2	CERTIFICATE OF INDEPENDENT PRICE DETERMINATION (APR 1985).....	1
52.203-11	CERTIFICATION AND DISCLOSURE REGARDING PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (APR 1991)	2
52.204-3	TAXPAYER IDENTIFICATION (OCT 1998).....	3
52.204-6	DATA UNIVERSAL NUMBERING SYSTEM (DUNS) NUMBER (OCT 2003).....	4
52.204-7	CENTRAL CONTRACTOR REGISTRATION (OCT 2003).....	5
52.209-5	CERTIFICATION REGARDING DEBARMENT, SUSPENSION, PROPOSED DEBARMENT, AND OTHER RESPONSIBILITY MATTERS (DEC 2001).....	7
*52.219-1	SMALL BUSINESS PROGRAM REPRESENTATIONS (MAY 2004).....	8
52.219-3	NOTICE OF TOTAL HUBZONE SET-ASIDE (JAN 1999).....	10
52.219-8	UTILIZATION OF SMALL BUSINESS CONCERNS (MAY 2004).....	10
52.219-19	SMALL BUSINESS CONCERN REPRESENTATION FOR THE SMALL BUSINESS COMPETITIVENESS DEMONSTRATION PROGRAM (OCT 2000).....	12
52.222-21	PROHIBITION OF SEGREGATED FACILITIES (FEB 1999).....	12
52.222-22	PREVIOUS CONTRACTS AND COMPLIANCE REPORTS (FEB 1999).....	13
52.222-25	AFFIRMATIVE ACTION COMPLIANCE (APR 1984).....	13
52.222-38	COMPLIANCE WITH VETERANS' EMPLOYMENT REPORTING REQUIREMENTS (DEC 2001)	13
252.204-7001	COMMERCIAL AND GOVERNMENT ENTITY (CAGE) CODE REPORTING (AUG 1999).....	13
252.204-7004	REQUIRED CENTRAL CONTRACTOR REGISTRATION ALTERNATE A (NOV 2003).....	14
252.209-7001	DISCLOSURE OF OWNERSHIP OR CONTROL BY THE GOVERNMENT OF A TERRORIST COUNTRY (MAR 1998)	16
252.247-7022	REPRESENTATION OF EXTENT OF TRANSPORTATION BY SEA (AUG 1992)	17

Amendment 0001

*Denotes Change

52.203-2 CERTIFICATE OF INDEPENDENT PRICE DETERMINATION (APR 1985)

(a) The offeror certifies that --

(1) The prices in this offer have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other offeror or competitor relating to --

(i) Those prices,

(ii) The intention to submit an offer, or

(iii) The methods of factors used to calculate the prices offered:

(2) The prices in this offer have not been and will not be knowingly disclosed by the offeror, directly or indirectly, to any other offeror or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the offeror to induce any other concern to submit or not to submit an offer for the purpose of restricting competition.

(b) Each signature on the offer is considered to be a certification by the signatory that the signatory --

(1) Is the person in the offeror's organization responsible for determining the prices offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) of this provision; or

(2) (i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) of this provision _____ (insert full name of person(s) in the offeror's organization responsible for determining the prices offered in this bid or proposal, and the title of his or her position in the offeror's organization);

(ii) As an authorized agent, does certify that the principals named in subdivision (b)(2)(i) above have not participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above; and

(iii) As an agent, has not personally participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) of this provision.

(c) If the offeror deletes or modifies subparagraph (a)(2) of this provision, the offeror must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

(End of clause)

52.203-11 CERTIFICATION AND DISCLOSURE REGARDING PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (APR 1991)

(a) The definitions and prohibitions contained in the clause, at FAR 52.203-12, Limitation on Payments to Influence Certain Federal Transactions, included in this solicitation, are hereby incorporated by reference in paragraph (b) of this Certification.

(b) The offeror, by signing its offer, hereby certifies to the best of his or her knowledge and belief that on or after December 23, 1989,--

(1) No Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to

influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan, or cooperative agreement;

(2) If any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress or an employee of a Member of Congress on his or her behalf in connection with this solicitation, the offeror shall complete and submit, with its offer, OMB standard form LLL, Disclosure of Lobbying Activities, to the Contracting Officer; and

(3) He or she will include the language of this certification in all subcontract awards at any tier and require that all recipients of subcontract awards in excess of \$100,000 shall certify and disclose accordingly.

(a) Submission of this certification and disclosure is a prerequisite for making or entering into this contract imposed by section 1352, title 31, United States Code. Any person who makes an expenditure prohibited under this provision, shall be subject to a civil penalty of not less than \$10,000, and not more than \$100,000, for each such failure.

(End of provision)

52.204-3 TAXPAYER IDENTIFICATION (OCT 1998)

(a) Definitions.

“Common parent,” as used in this provision, means that corporate entity that owns or controls an affiliated group of corporations that files its Federal income tax returns on a consolidated basis, and of which the offeror is a member.

“Taxpayer Identification Number (TIN),” as used in this provision, means the number required by the Internal Revenue Service (IRS) to be used by the offeror in reporting income tax and other returns. The TIN may be either a Social Security Number or an Employer Identification Number.

(b) All offerors must submit the information required in paragraphs (d) through (f) of this provision to comply with debt collection requirements of 31 U.S.C. 7701(c) and 3325(d), reporting requirements of 26 U.S.C. 6041, 6041A, and 6050M, and implementing regulations issued by the IRS. If the resulting contract is subject to the payment reporting requirements described in Federal Acquisition Regulation (FAR) 4.904, the failure or refusal by the offeror to furnish the information may result in a 31 percent reduction of payments otherwise due under the contract.

(c) The TIN may be used by the Government to collect and report on any delinquent amounts arising out of the offeror's relationship with the Government (31 U.S.C. 7701(c)(3)). If the resulting contract is subject to the payment reporting requirements described in FAR 4.904, the TIN provided hereunder may be matched with IRS records to verify the accuracy of the offeror's TIN.

(d) Taxpayer Identification Number (TIN).

___ TIN: _____

___ TIN has been applied for.

___ TIN is not required because:

___ Offeror is a nonresident alien, foreign corporation, or foreign partnership that does not have income effectively connected with the conduct of a trade or business in the United States and does not have an office or place of business or a fiscal paying agent in the United States;

___ Offeror is an agency or instrumentality of a foreign government;

___ Offeror is an agency or instrumentality of the Federal Government.

(e) Type of organization.

___ Sole proprietorship;

___ Partnership;

___ Corporate entity (not tax-exempt);

___ Corporate entity (tax-exempt);

___ Government entity (Federal, State, or local);

___ Foreign government;

___ International organization per 26 CFR 1.6049-4;

___ Other _____

(f) Common parent.

___ Offeror is not owned or controlled by a common parent as defined in paragraph (a) of this provision.

___ Name and TIN of common parent:

Name _____

TIN _____

(End of provision)

52.204-6 DATA UNIVERSAL NUMBERING SYSTEM (DUNS) NUMBER (OCT 2003)

(a) The offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation "DUNS" or "DUNS+4" followed by the DUNS number or "DUNS+4" that identifies the offeror's name and address exactly as stated in the offer. The DUNS number is a nine-digit number assigned by Dun and Bradstreet, Inc. The DUNS+4 is the DUNS number plus a 4-character suffix that may be assigned at the discretion of the offeror to establish additional CCR records for identifying alternative Electronic Funds Transfer (EFT) accounts (see Subpart 32.11) for the same parent concern.

(b) If the offeror does not have a DUNS number, it should contact Dun and Bradstreet directly to obtain one.

(1) An offeror may obtain a DUNS number--

(i) If located within the United States, by calling Dun and Bradstreet at 1-866-705-5711 or via the Internet at <http://www.dnb.com>; or

(ii) If located outside the United States, by contacting the local Dun and Bradstreet office.

(2) The offeror should be prepared to provide the following information:

(i) Company legal business name.

(ii) Tradestyle, doing business, or other name by which your entity is commonly recognized.

(iii) Company physical street address, city, state and Zip Code.

(iv) Company mailing address, city, state and Zip Code (if separate from physical).

(v) Company telephone number.

(vi) Date the company was started.

(vii) Number of employees at your location.

(viii) Chief executive officer/key manager.

(ix) Line of business (industry).

(x) Company Headquarters name and address (reporting relationship within your entity).

(End of provision)

52.204-7 CENTRAL CONTRACTOR REGISTRATION (OCT 2003)

(a) Definitions. As used in this clause--

Central Contractor Registration (CCR) database means the primary Government repository for Contractor information required for the conduct of business with the Government.

Data Universal Numbering System (DUNS) number means the 9-digit number assigned by Dun and Bradstreet, Inc. (D&B) to identify unique business entities.

Data Universal Numbering System +4 (DUNS+4) number means the DUNS number assigned by D&B plus a 4-character suffix that may be assigned by a business concern. (D&B has no affiliation with this 4-character suffix.) This 4-character suffix may be assigned at the discretion of the business concern to establish additional CCR records for identifying alternative Electronic Funds Transfer (EFT) accounts (see the FAR at Subpart 32.11) for the same parent concern.

Registered in the CCR database means that--

(1) The Contractor has entered all mandatory information, including the DUNS number or the DUNS+4 number, into the CCR database; and

(2) The Government has validated all mandatory data fields and has marked the record "Active".

(b)(1) By submission of an offer, the offeror acknowledges the requirement that a prospective awardee shall be registered in the CCR database prior to award, during performance, and through final payment of any contract, basic agreement, basic ordering agreement, or blanket purchasing agreement resulting from this solicitation.

(2) The offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation "DUNS" or "DUNS +4" followed by the DUNS or DUNS +4 number that identifies the offeror's name and address exactly as stated in the offer. The DUNS number will be used by the Contracting Officer to verify that the offeror is registered in the CCR database.

(c) If the offeror does not have a DUNS number, it should contact Dun and Bradstreet directly to obtain one.

(1) An offeror may obtain a DUNS number--

(i) If located within the United States, by calling Dun and Bradstreet at 1-866-705-5711 or via the Internet at <http://www.dnb.com>; or

(ii) If located outside the United States, by contacting the local Dun and Bradstreet office.

(2) The offeror should be prepared to provide the following information:

(i) Company legal business.

(ii) Tradestyle, doing business, or other name by which your entity is commonly recognized.

(iii) Company Physical Street Address, City, State, and Zip Code.

(iv) Company Mailing Address, City, State and Zip Code (if separate from physical).

(v) Company Telephone Number.

(vi) Date the company was started.

(vii) Number of employees at your location.

(viii) Chief executive officer/key manager.

(ix) Line of business (industry).

(x) Company Headquarters name and address (reporting relationship within your entity).

(d) If the Offeror does not become registered in the CCR database in the time prescribed by the Contracting Officer, the Contracting Officer will proceed to award to the next otherwise successful registered Offeror.

(e) Processing time, which normally takes 48 hours, should be taken into consideration when registering. Offerors who are not registered should consider applying for registration immediately upon receipt of this solicitation.

(f) The Contractor is responsible for the accuracy and completeness of the data within the CCR database, and for any liability resulting from the Government's reliance on inaccurate or incomplete data. To remain registered in the CCR database after the initial registration, the Contractor is required to review and update on an annual basis from the date of initial registration or subsequent updates its information in the CCR database to ensure it is current, accurate and complete. Updating information in the CCR does not alter the terms and conditions of this contract and is not a substitute for a properly executed contractual document.

(g)(1)(i) If a Contractor has legally changed its business name, "doing business as" name, or division name (whichever is shown on the contract), or has transferred the assets used in performing the contract, but has not completed the necessary requirements regarding novation and change-of-name agreements in Subpart 42.12, the Contractor shall provide the responsible Contracting Officer a minimum of one business day's written notification of its intention to (A) change the name in the CCR database; (B) comply with the requirements of Subpart 42.12 of the

FAR; and (C) agree in writing to the timeline and procedures specified by the responsible Contracting Officer. The Contractor must provide with the notification sufficient documentation to support the legally changed name.

(ii) If the Contractor fails to comply with the requirements of paragraph (g)(1)(i) of this clause, or fails to perform the agreement at paragraph (g)(1)(i)(C) of this clause, and, in the absence of a properly executed novation or change-of-name agreement, the CCR information that shows the Contractor to be other than the Contractor indicated in the contract will be considered to be incorrect information within the meaning of the "Suspension of Payment" paragraph of the electronic funds transfer (EFT) clause of this contract.

(2) The Contractor shall not change the name or address for EFT payments or manual payments, as appropriate, in the CCR record to reflect an assignee for the purpose of assignment of claims (see FAR Subpart 32.8, Assignment of Claims). Assignees shall be separately registered in the CCR database. Information provided to the Contractor's CCR record that indicates payments, including those made by EFT, to an ultimate recipient other than that Contractor will be considered to be incorrect information within the meaning of the "Suspension of payment" paragraph of the EFT clause of this contract.

(h) Offerors and Contractors may obtain information on registration and annual confirmation requirements via the internet at <http://www.ccr.gov> or by calling 1-888-227-2423, or 269-961-5757.

(End of clause)

52.209-5 CERTIFICATION REGARDING DEBARMENT, SUSPENSION, PROPOSED DEBARMENT, AND OTHER RESPONSIBILITY MATTERS (DEC 2001)

(a)(1) The Offeror certifies, to the best of its knowledge and belief, that-

(i) The Offeror and/or any of its Principals-

(A) Are () are not () presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency;

(B) Have () have not (), within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property; and

(C) Are () are not () presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in paragraph (a)(1)(i)(B) of this provision.

(ii) The Offeror has () has not (), within a three-year period preceding this offer, had one or more contracts terminated for default by any Federal agency.

(2) "Principals," for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).

This Certification Concerns a Matter Within the Jurisdiction of an Agency of the United States and the Making of a False, Fictitious, or Fraudulent Certification May Render the Maker Subject to Prosecution Under Section 1001, Title 18, United States Code.

(b) The Offeror shall provide immediate written notice to the Contracting Officer if, at any time prior to contract award, the Offeror learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

(c) A certification that any of the items in paragraph (a) of this provision exists will not necessarily result in withholding of an award under this solicitation. However, the certification will be considered in connection with a determination of the Offeror's responsibility. Failure of the Offeror to furnish a certification or provide such additional information as requested by the Contracting Officer may render the Offeror nonresponsible.

(d) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision. The knowledge and information of an Offeror is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

(e) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Offeror knowingly rendered an erroneous certification, in addition to other remedies available to the Government, the Contracting Officer may terminate the contract resulting from this solicitation for default.

(End of provision)

***52.219-1 SMALL BUSINESS PROGRAM REPRESENTATIONS (MAY 2004)**

(a)(1) The North American Industry Classification System (NAICS) code for this acquisition is 237110.

(2) The small business size standard is \$23 Million.

(3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.

(b) Representations. (1) The offeror represents as part of its offer that it () is, () is not a small business concern.

(2) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents, for general statistical purposes, that it () is, () is not a small disadvantaged business concern as defined in 13 CFR 124.1002.

(3) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents as part of its offer that it () is, () is not a women-owned small business concern.

(4) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents as part of its offer that it () is, () is not a veteran-owned small business concern.

(5) (Complete only if the offeror represented itself as a veteran-owned small business concern in paragraph (b)(4) of this provision.) The offeror represents as part of its offer that it () is, () is not a service-disabled veteran-owned small business concern.

(6) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents, as part of its offer, that--

(i) It () is, () is not a HUBZone small business concern listed, on the date of this representation, on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration, and no material change in ownership and control, principal office, or HUBZone employee percentage has occurred since it was certified by the Small Business Administration in accordance with 13 CFR part 126; and

(ii) It () is, () is not a joint venture that complies with the requirements of 13 CFR part 126, and the representation in paragraph (b)(6)(i) of this provision is accurate for the HUBZone small business concern or concerns that are participating in the joint venture. (The offeror shall enter the name or names of the HUBZone small business

concern or concerns that are participating in the joint venture:_____.) Each HUBZone small business concern participating in the joint venture shall submit a separate signed copy of the HUBZone representation.

Amendment 0001

* Denotes Change

(c) Definitions. As used in this provision--

Service-disabled veteran-owned small business concern—

(1) Means a small business concern--

(i) Not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a service-disabled veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

(2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

"Small business concern," means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR Part 121 and the size standard in paragraph (a) of this provision.

Veteran-owned small business concern means a small business concern--

(1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and

(2) The management and daily business operations of which are controlled by one or more veterans.

"Women-owned small business concern," means a small business concern --

(1) That is at least 51 percent owned by one or more women; in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and

(2) Whose management and daily business operations are controlled by one or more women.

(d) Notice.

(1) If this solicitation is for supplies and has been set aside, in whole or in part, for small business concerns, then the clause in this solicitation providing notice of the set-aside contains restrictions on the source of the end items to be furnished.

(2) Under 15 U.S.C. 645(d), any person who misrepresents a firm's status as a small, HUBZone small, small disadvantaged, or women-owned small business concern in order to obtain a contract to be awarded under the preference programs established pursuant to section 8(a), 8(d), 9, or 15 of the Small Business Act or any other provision of Federal law that specifically references section 8(d) for a definition of program eligibility, shall--

- (i) Be punished by imposition of fine, imprisonment, or both;
- (ii) Be subject to administrative remedies, including suspension and debarment; and
- (iii) Be ineligible for participation in programs conducted under the authority of the Act.

(End of provision)

52.219-3 NOTICE OF TOTAL HUBZONE SET-ASIDE (JAN 1999)

(a) Definition. HUBZone small business concern, as used in this clause, means a small business concern that appears on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration.

(b) General. (1) Offers are solicited only from HUBZone small business concerns. Offers received from concerns that are not HUBZone small business concerns shall not be considered.

(2) Any award resulting from this solicitation will be made to a HUBZone small business concern.

(c) Agreement. A HUBZone small business concern agrees that in the performance of the contract, in the case of a contract for--

(1) Services (except construction), at least 50 percent of the cost of personnel for contract performance will be spent for employees of the concern or employees of other HUBZone small business concerns;

(2) Supplies (other than acquisition from a nonmanufacturer of the supplies), at least 50 percent of the cost of manufacturing, excluding the cost of materials, will be performed by the concern or other HUBZone small business concerns;

(3) General construction, at least 15 percent of the cost of the contract performance incurred for personnel will be spent on the concern's employees or the employees of other HUBZone small business concerns; or

(4) Construction by special trade contractors, at least 25 percent of the cost of the contract performance incurred for personnel will be spent on the concern's employees or the employees of other HUBZone small business concerns.

(d) A HUBZone joint venture agrees that, in the performance of the contract, the applicable percentage specified in paragraph (c) of this clause will be performed by the HUBZone small business participant or participants.

(e) A HUBZone small business concern nonmanufacturer agrees to furnish in performing this contract only end items manufactured or produced by HUBZone small business manufacturer concerns. This paragraph does not apply in connection with construction or service contracts.

(End of clause)

52.219-8 UTILIZATION OF SMALL BUSINESS CONCERNS (MAY 2004)

(a) It is the policy of the United States that small business concerns, veteran-owned small business concerns, service-disabled veteran-owned small business concerns, HUBZone small business concerns, small disadvantaged business concerns, and women-owned small business concerns shall have the maximum practicable opportunity to participate in performing contracts let by any Federal agency, including contracts and subcontracts for subsystems, assemblies, components, and related services for major systems. It is further the policy of the United States that its prime contractors establish procedures to ensure the timely payment of amounts due pursuant to the terms of their subcontracts with small business concerns, veteran-owned small business concerns, service-disabled veteran-owned

small business concerns, HUBZone small business concerns, small disadvantaged business concerns, and women-owned small business concerns.

(b) The Contractor hereby agrees to carry out this policy in the awarding of subcontracts to the fullest extent consistent with efficient contract performance. The Contractor further agrees to cooperate in any studies or surveys as may be conducted by the United States Small Business Administration or the awarding agency of the United States as may be necessary to determine the extent of the Contractor's compliance with this clause.

Definitions. As used in this contract--

HUBZone small business concern means a small business concern that appears on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration.

Service-disabled veteran-owned small business concern--

(1) Means a small business concern--

(i) Not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a service-disabled veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

(2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

Small business concern means a small business as defined pursuant to Section 3 of the Small Business Act and relevant regulations promulgated pursuant thereto.

Small disadvantaged business concern means a small business concern that represents, as part of its offer that--

(1) It has received certification as a small disadvantaged business concern consistent with 13 CFR part 124, subpart B;

(2) No material change in disadvantaged ownership and control has occurred since its certification;

(3) Where the concern is owned by one or more individuals, the net worth of each individual upon whom the certification is based does not exceed \$750,000 after taking into account the applicable exclusions set forth at 13 CFR 124.104(c)(2); and

(4) It is identified, on the date of its representation, as a certified small disadvantaged business in the database maintained by the Small Business Administration (PRO-Net).

Veteran-owned small business concern means a small business concern--

(1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and

(2) The management and daily business operations of which are controlled by one or more veterans.

Women-owned small business concern means a small business concern--

(1) That is at least 51 percent owned by one or more women, or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and

(2) Whose management and daily business operations are controlled by one or more women.

(d) Contractors acting in good faith may rely on written representations by their subcontractors regarding their status as a small business concern, a veteran-owned small business concern, a service-disabled veteran-owned small business concern, a HUBZone small business concern, a small disadvantaged business concern, or a women-owned small business concern.

(End of clause)

52.219-19 SMALL BUSINESS CONCERN REPRESENTATION FOR THE SMALL BUSINESS COMPETITIVENESS DEMONSTRATION PROGRAM (OCT 2000)

(a) Definition.

"Emerging small business" as used in this solicitation, means a small business concern whose size is no greater than 50 percent of the numerical size standard applicable to the North American Industry Classification System (NAICS) code assigned to a contracting opportunity.

(b) [Complete only if the Offeror has represented itself under the provision at 52.219-1 as a small business concern under the size standards of this solicitation.] The Offeror [] is, [] is not an emerging small business.

(c) (Complete only if the Offeror is a small business or an emerging small business, indicating its size range.)

Offeror's number of employees for the past 12 months (check this column if size standard stated in solicitation is expressed in terms of number of employees) or Offeror's average annual gross revenue for the last 3 fiscal years (check this column if size standard stated in solicitation is expressed in terms of annual receipts). (Check one of the following.)

No. of Employees Avg. Annual Gross Revenues

___ 50 or fewer	___ \$1 million or less
___ 51 - 100	___ \$1,000,001 - \$2 million
___ 101 - 250	___ \$2,000,001 - \$3.5 million
___ 251 - 500	___ \$3,500,001 - \$5 million
___ 501 - 750	___ \$5,000,001 - \$10 million
___ 751 - 1,000	___ \$10,000,001 - \$17 million
___ Over 1,000	___ Over \$17 million

(End of provision)

52.222-21 PROHIBITION OF SEGREGATED FACILITIES (FEB 1999)

(a) Segregated facilities, as used in this clause, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex, or national

origin because of written or oral policies or employee custom. The term does not include separate or single-user rest rooms or necessary dressing or sleeping areas provided to assure privacy between the sexes.

(b) The Contractor agrees that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Contractor agrees that a breach of this clause is a violation of the Equal Opportunity clause in this contract.

(c) The Contractor shall include this clause in every subcontract and purchase order that is subject to the Equal Opportunity clause of this contract.

(End of clause)

52.222-22 PREVIOUS CONTRACTS AND COMPLIANCE REPORTS (FEB 1999)

The offeror represents that --

(a) ☐ It has, ☐ has not participated in a previous contract or subcontract subject to the Equal Opportunity clause of this solicitation;

(b) ☐ It has, ☐ has not, filed all required compliance reports; and

(c) Representations indicating submission of required compliance reports, signed by proposed subcontractors, will be obtained before subcontract awards.

(End of provision)

52.222-25 AFFIRMATIVE ACTION COMPLIANCE (APR 1984)

The offeror represents that

(a) ☐ it has developed and has on file, ☐ has not developed and does not have on file, at each establishment, affirmative action programs required by the rules and regulations of the Secretary of Labor (41 CFR 60-1 and 60-2), or

(b) ☐ has not previously had contracts subject to the written affirmative action programs requirement of the rules and regulations of the Secretary of Labor.

(End of provision)

52.222-38 COMPLIANCE WITH VETERANS' EMPLOYMENT REPORTING REQUIREMENTS (DEC 2001)

By submission of its offer, the offeror represents that, if it is subject to the reporting requirements of 38 U.S.C. 4212(d) (i.e., if it has any contract containing Federal Acquisition Regulation clause 52.222-37, Employment Reports on Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans), it has submitted the most recent VETS-100 Report required by that clause.

(End of provision)

252.204-7001 COMMERCIAL AND GOVERNMENT ENTITY (CAGE) CODE REPORTING (AUG 1999)

(a) The offeror is requested to enter its CAGE code on its offer in the block with its name and address. The CAGE code entered must be for that name and address. Enter "CAGE" before the number.

(b) If the offeror does not have a CAGE code, it may ask the Contracting Officer to request one from the Defense Logistics Information Service (DLIS). The Contracting Officer will--

(1) Ask the Contractor to complete section B of a DD Form 2051, Request for Assignment of a Commercial and Government Entity (CAGE) Code;

(2) Complete section A and forward the form to DLIS; and

(3) Notify the Contractor of its assigned CAGE code.

(c) Do not delay submission of the offer pending receipt of a CAGE code.

(End of provision)

252.204-7004 REQUIRED CENTRAL CONTRACTOR REGISTRATION ALTERNATE A (NOV 2003)

(a) Definitions. As used in this clause--

“Central Contractor Registration (CCR) database” means the primary Government repository for contractor information required for the conduct of business with the Government.

“Commercial and Government Entity (CAGE) code” means--

(1) A code assigned by the Defense Logistics Information Service (DLIS) to identify a commercial or Government entity; or

(2) A code assigned by a member of the North Atlantic Treaty Organization that DLIS records and maintains in the CAGE master file. This type of code is known as an “NCAGE code.”

“Data Universal Numbering System (DUNS) number” means the 9-digit number assigned by Dun and Bradstreet, Inc. (D&B) to identify unique business entities.

“Data Universal Numbering System +4 (DUNS+4) number” means the DUNS number assigned by D&B plus a 4-character suffix that may be assigned by a business concern. (D&B has no affiliation with this 4-character suffix.) This 4-character suffix may be assigned at the discretion of the business concern to establish additional CCR records for identifying alternative Electronic Funds Transfer (EFT) accounts (see Subpart 32.11 of the Federal Acquisition Regulation) for the same parent concern.

“Registered in the CCR database” means that--

(1) The Contractor has entered all mandatory information, including the DUNS number or the DUNS+4 number, into the CCR database;

(2) The Contractor's CAGE code is in the CCR database; and

(3) The Government has validated all mandatory data fields and has marked the records “Active.”

(b)(1) By submission of an offer, the offeror acknowledges the requirement that a prospective awardee shall be registered in the CCR database prior to award, during performance, and through final payment of any contract, basic agreement, basic ordering agreement, or blanket purchasing agreement resulting from this solicitation.

(2) The offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation “DUNS” or “DUNS +4” followed by the DUNS or DUNS +4 number that identifies the offeror's name and address exactly as stated in the offer. The DUNS number will be used by the Contracting Officer to verify that the offeror is registered in the CCR database.

(c) If the offeror does not have a DUNS number, it should contact Dun and Bradstreet directly to obtain one.

(1) An offeror may obtain a DUNS number--

(i) If located within the United States, by calling Dun and Bradstreet at 1-866-705-5711 or via the Internet at <http://www.dnb.com>; or

(ii) If located outside the United States, by contacting the local Dun and Bradstreet office.

(2) The offeror should be prepared to provide the following information:

(i) Company legal business.

(ii) Tradestyle, doing business, or other name by which your entity is commonly recognized.

(iii) Company Physical Street Address, City, State, and Zip Code.

(iv) Company Mailing Address, City, State and Zip Code (if separate from physical).

(v) Company Telephone Number.

(vi) Date the company was started.

(vii) Number of employees at your location.

(viii) Chief executive officer/key manager.

(ix) Line of business (industry).

(x) Company Headquarters name and address (reporting relationship within your entity).

(d) If the Offeror does not become registered in the CCR database in the time prescribed by the Contracting Officer, the Contracting Officer will proceed to award to the next otherwise successful registered Offeror.

(e) Processing time, which normally takes 48 hours, should be taken into consideration when registering. Offerors who are not registered should consider applying for registration immediately upon receipt of this solicitation.

(f) The Contractor is responsible for the accuracy and completeness of the data within the CCR database, and for any liability resulting from the Government's reliance on inaccurate or incomplete data. To remain registered in the CCR database after the initial registration, the Contractor is required to review and update on an annual basis from the date of initial registration or subsequent updates its information in the CCR database to ensure it is current, accurate and complete. Updating information in the CCR does not alter the terms and conditions of this contract and is not a substitute for a properly executed contractual document.

(g)(1)(i) If a Contractor has legally changed its business name, "doing business as" name, or division name (whichever is shown on the contract), or has transferred the assets used in performing the contract, but has not completed the necessary requirements regarding novation and change-of-name agreements in Subpart 42.12, the Contractor shall provide the responsible Contracting Officer a minimum of one business day's written notification of its intention to (A) change the name in the CCR database; (B) comply with the requirements of Subpart 42.12 of the FAR; and (C) agree in writing to the timeline and procedures specified by the responsible Contracting Officer. The Contractor must provide with the notification sufficient documentation to support the legally changed name.

(ii) If the Contractor fails to comply with the requirements of paragraph (g)(1)(i) of this clause, or fails to perform the agreement at paragraph (g)(1)(i)(C) of this clause, and, in the absence of a properly executed novation or

change-of-name agreement, the CCR information that shows the Contractor to be other than the Contractor indicated in the contract will be considered to be incorrect information within the meaning of the "Suspension of Payment" paragraph of the electronic funds transfer (EFT) clause of this contract.

(2) The Contractor shall not change the name or address for EFT payments or manual payments, as appropriate, in the CCR record to reflect an assignee for the purpose of assignment of claims (see FAR Subpart 32.8, Assignment of Claims). Assignees shall be separately registered in the CCR database. Information provided to the Contractor's CCR record that indicates payments, including those made by EFT, to an ultimate recipient other than that Contractor will be considered to be incorrect information within the meaning of the "Suspension of payment" paragraph of the EFT clause of this contract.

(h) Offerors and Contractors may obtain information on registration and annual confirmation requirements via the internet at <http://www.ccr.gov> or by calling 1-888-227-2423, or 269-961-5757.

(End of clause)

252.209-7001 DISCLOSURE OF OWNERSHIP OR CONTROL BY THE GOVERNMENT OF A TERRORIST COUNTRY (MAR 1998)

(a) "Definitions."

As used in this provision --

(a) "Government of a terrorist country" includes the state and the government of a terrorist country, as well as any political subdivision, agency, or instrumentality thereof.

(2) "Terrorist country" means a country determined by the Secretary of State, under section 6(j)(1)(A) of the Export Administration Act of 1979 (50 U.S.C. App. 2405(j)(i)(A)), to be a country the government of which has repeatedly provided support for such acts of international terrorism. As of the date of this provision, terrorist countries include: Cuba, Iran, Iraq, Libya, North Korea, Sudan, and Syria.

(3) "Significant interest" means --

(i) Ownership of or beneficial interest in 5 percent or more of the firm's or subsidiary's securities. Beneficial interest includes holding 5 percent or more of any class of the firm's securities in "nominee shares," "street names," or some other method of holding securities that does not disclose the beneficial owner;

(ii) Holding a management position in the firm, such as a director or officer;

(iii) Ability to control or influence the election, appointment, or tenure of directors or officers in the firm;

(iv) Ownership of 10 percent or more of the assets of a firm such as equipment, buildings, real estate, or other tangible assets of the firm; or

(v) Holding 50 percent or more of the indebtedness of a firm.

(b) "Prohibition on award."

In accordance with 10 U.S.C. 2327, no contract may be awarded to a firm or a subsidiary of a firm if the government of a terrorist country has a significant interest in the firm or subsidiary or, in the case of a subsidiary, the firm that owns the subsidiary, unless a waiver is granted by the Secretary of Defense.

(c) "Disclosure."

If the government of a terrorist country has a significant interest in the Offeror or a subsidiary of the Offeror, the

Offeror shall disclosure such interest in an attachment to its offer. If the Offeror is a subsidiary, it shall also disclose any significant interest the government of a terrorist country has in any firm that owns or controls the subsidiary. The disclosure shall include --

- (1) Identification of each government holding a significant interest; and
- (2) A description of the significant interest held by each government.

(End of provision)

252.247-7022 REPRESENTATION OF EXTENT OF TRANSPORTATION BY SEA (AUG 1992)

(a) The Offeror shall indicate by checking the appropriate blank in paragraph (b) of this provision whether transportation of supplies by sea is anticipated under the resultant contract. The term supplies is defined in the Transportation of Supplies by Sea clause of this solicitation.

(b) Representation. The Offeror represents that it:

____ (1) Does anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

____ (2) Does not anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

(c) Any contract resulting from this solicitation will include the Transportation of Supplies by Sea clause. If the Offeror represents that it will not use ocean transportation, the resulting contract will also include the Defense FAR Supplement clause at 252.247-7024, Notification of Transportation of Supplies by Sea.

(End of provision)

Section 00800 - Special Contract Requirements

52.0001-4001	CONTRACT ADMINISTRATION DATA.....	2
52.0028-4001	REQUIRED INSURANCE	2
*52.211-10	COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (APR 1984)	3
52.211-12	LIQUIDATED DAMAGES--CONSTRUCTION (SEP 2000).....	3
52.211-18	VARIATION IN ESTIMATED QUANTITY (APR 1984).....	3
52.222-23	NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY FOR CONSTRUCTION (FEB 1999)	3
52.228-12	Prospective Subcontractor Requests for Bonds. (OCT 1995).....	4
52.228-14	IRREVOCABLE LETTER OF CREDIT (DEC 1999)	4
52.228-15	Performance and Payment Bonds--Construction (JUL 2000)-	8
52.231-5000	EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE	9
MAR 1995)--EFARS.....		9
52.232-33	PAYMENT BY ELECTRONIC FUNDS TRANSFER—CENTRAL CONTRACTOR REGISTRATION (OCT 2003)	9
52.236-4	PHYSICAL DATA (APR 1984).....	11
52.236-16	QUANTITY SURVEYS (APR 1984) - ALTERNATE I (APR 1984).....	11
52.236-21	SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (FEB 1997)	11
52.249-5000	BASIS FOR SETTLEMENT OF PROPOSALS	12
252.236-7001	CONTRACT DRAWINGS, MAPS, AND SPECIFICATIONS (AUG 2000)	13
52.232-5001	CONTINUING CONTRACTS (MAR 1995)--EFARS	13

52.0001-4001 CONTRACT ADMINISTRATION DATA

The Contract Administration Office for this contract subsequent to award is:

Department of the Army
Los Angeles District, Corps of Engineers
P.O. Box 532711
Los Angeles, California 90053-2325

ATTN: Julie Ayala
Telephone No: 213/452-3241

Payment will be made by:

USACE Finance Center
ATTN: CEFC-AO-P
5270 Integrity Drive
Millington, TN 38054-5005

Submit Invoices to:

USACE-Los Angeles District
Attn: Robert Kwan
P.O. Box 532711
Los Angeles, CA 90053-2325

52.0028-4001 REQUIRED INSURANCE

Insurance is required as follows:

- a. Either Workman's Compensation or Employer's Liability Insurance with a minimum limit of \$100,000.00.
- b. General Liability. The Contracting Officer shall require bodily injury liability insurance coverage written on the comprehensive form or policy of at least \$500,000.00 per occurrence.
- c. Automobile Liability Insurance for Bodily Injury and Property Damage with minimum limits of \$200,000.00 for injury or death of any one person; \$500,000.00 for each accident or occurrence of bodily injury liability; and \$20,000.00 for each accident or occurrence for property liability.
- d. In every case the insurance coverage shall amount to at least the limits stated above. However, where the Financial Responsibility Compulsory Insurance Law of the State in which the installation is located requires higher limits, the Automobile Liability Insurance Policy should provide coverage of at least those limits.

Prior to the commencement of work hereunder, the Contractor shall furnish to the Contracting Office a certificate or written statement of the above required insurance. The policies evidencing required insurance shall contain an endorsement to the effect that cancellation or any material change in the policies adversely affecting the interests of the Government in such insurance shall not be effective until 10 days after written notice thereof to the Contracting Officer.

The Contractor agrees to insert the substance of this clause, including this paragraph, in all subcontracts

***52.211-10 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (APR 1984)**

The Contractor shall be required to (a) commence work under this contract within 10 calendar days after the date the Contractor receives the notice to proceed, (b) prosecute the work diligently, and (c) complete the Base Bid work ready for use not later than 280 calendar days after the contractor receives the Notice to Proceed; (d) if Option 1 is awarded, an additional 45 calendar days will be added to the duration of the contract, (e) if Option 2 is awarded, an additional 15 calendar days will be added to the duration of the contract, (f) if Option 3 is awarded, an additional 20 calendar days will be added to the duration of the contract, if Option 4 is awarded, an additional 30 days will be added to the duration of the contract. The time stated for completion shall include final cleanup of the premises.

(End of clause)

52.211-12 LIQUIDATED DAMAGES--CONSTRUCTION (SEP 2000)

(a) If the Contractor fails to complete the work within the time specified in the contract, the Contractor shall pay liquidated damages to the Government in the amount of \$2,678.00 for each calendar day of delay until the work is completed or accepted.

(b) If the Government terminates the Contractor's right to proceed, liquidated damages will continue to accrue until the work is completed. These liquidated damages are in addition to excess costs of repurchase under the Termination clause.

(End of clause)

52.211-18 VARIATION IN ESTIMATED QUANTITY (APR 1984)

If the quantity of a unit-priced item in this contract is an estimated quantity and the actual quantity of the unit-priced item varies more than 15 percent above or below the estimated quantity, an equitable adjustment in the contract price shall be made upon demand of either party. The equitable adjustment shall be based upon any increase or decrease in costs due solely to the variation above 115 percent or below 85 percent of the estimated quantity. If the quantity variation is such as to cause an increase in the time necessary for completion, the Contractor may request, in writing, an extension of time, to be received by the Contracting Officer within 10 days from the beginning of the delay, or within such further period as may be granted by the Contracting Officer before the date of final settlement of the contract. Upon the receipt of a written request for an extension, the Contracting Officer shall ascertain the facts and make an adjustment for extending the completion date as, in the judgment of the Contracting Officer, is justified.

52.222-23 NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY FOR CONSTRUCTION (FEB 1999)

(a) The offeror's attention is called to the Equal Opportunity clause and the Affirmative Action Compliance Requirements for Construction clause of this solicitation.

(b) The goals for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Goals for minority participation for each trade	Goals for female participation for each trade
21.7% to 25.1%	6.9%

These goals are applicable to all the Contractor's construction work performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, the Contractor shall apply the goals established for the geographical area where the work is actually performed. Goals are published periodically in the Federal Register in notice form, and these notices may be obtained from any Office of Federal Contract Compliance Programs office.

(c) The Contractor's compliance with Executive Order 11246, as amended, and the regulations in 41 CFR 60-4 shall be based on (1) its implementation of the Equal Opportunity clause, (2) specific affirmative action obligations required by the clause entitled "Affirmative Action Compliance Requirements for Construction," and (3) its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade. The Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor, or from project to project, for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, Executive Order 11246, as amended, and the regulations in 41 CFR 60-4. Compliance with the goals will be measured against the total work hours performed.

(d) The Contractor shall provide written notification to the Deputy Assistant Secretary for Federal Contract Compliance, U.S. Department of Labor, within 10 working days following award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the --

- (1) Name, address, and telephone number of the subcontractor;
- (2) Employer's identification number of the subcontractor;
- (3) Estimated dollar amount of the subcontract;
- (4) Estimated starting and completion dates of the subcontract; and
- (5) Geographical area in which the subcontract is to be performed.

(e) As used in this Notice, and in any contract resulting from this solicitation, the "covered area" is Los Angeles County, California.

(End of provision)

52.228-12 Prospective Subcontractor Requests for Bonds. (OCT 1995)

In accordance with Section 806(a)(3) of Pub. L. 102-190, as amended by Sections 2091 and 8105 of Pub. L. 103-355, upon the request of a prospective subcontractor or supplier offering to furnish labor or material for the performance of this contract for which a payment bond has been furnished to the Government pursuant to the Miller Act, the Contractor shall promptly provide a copy of such payment bond to the requester.

(End of clause)

52.228-14 IRREVOCABLE LETTER OF CREDIT (DEC 1999)

(a) "Irrevocable letter of credit" (ILC), as used in this clause, means a written commitment by a federally insured financial institution to pay all or part of a stated amount of money, until the expiration date of the letter, upon presentation by the Government (the beneficiary) of a written demand therefor. Neither the financial institution nor the offeror/Contractor can revoke or condition the letter of credit.

(b) If the offeror intends to use an ILC in lieu of a bid bond, or to secure other types of bonds such as performance

and payment bonds, the letter of credit and letter of confirmation formats in paragraphs (e) and (f) of this clause shall be used.

(c) The letter of credit shall be irrevocable, shall require presentation of no document other than a written demand and the ILC (including confirming letter, if any), shall be issued/confirmed by an acceptable federally insured financial institution as provided in paragraph (d) of this clause, and--

(1) If used as a bid guarantee, the ILC shall expire no earlier than 60 days after the close of the bid acceptance period;

(2) If used as an alternative to corporate or individual sureties as security for a performance or payment bond, the offeror/Contractor may submit an ILC with an initial expiration date estimated to cover the entire period for which financial security is required or may submit an ILC with an initial expiration date that is a minimum period of one year from the date of issuance. The ILC shall provide that, unless the issuer provides the beneficiary written notice of non-renewal at least 60 days in advance of the current expiration date, the ILC is automatically extended without amendment for one year from the expiration date, or any future expiration date, until the period of required coverage is completed and the Contracting Officer provides the financial institution with a written statement waiving the right to payment. The period of required coverage shall be:

(i) For contracts subject to the Miller Act, the later of--

(A) One year following the expected date of final payment;

(B) For performance bonds only, until completion of any warranty period; or

(C) For payment bonds only, until resolution of all claims filed against the payment bond during the one-year period following final payment.

(ii) For contracts not subject to the Miller Act, the later of--

(A) 90 days following final payment; or

(B) For performance bonds only, until completion of any warranty period.

(d) Only federally insured financial institutions rated investment grade or higher shall issue or confirm the ILC. The offeror/Contractor shall provide the Contracting Officer a credit rating that indicates the financial institution has the required rating(s) as of the date of issuance of the ILC. Unless the financial institution issuing the ILC had letter of credit business of less than \$25 million in the past year, ILCs over \$5 million must be confirmed by another acceptable financial institution that had letter of credit business of less than \$25 million in the past year.

(e) The following format shall be used by the issuing financial institution to create an ILC:

[Issuing Financial Institution's Letterhead or Name and Address]

Issue Date _____

IRREVOCABLE LETTER OF CREDIT NO. _____

Account party's name _____

Account party's address _____

For Solicitation No. _____ (for reference only)

TO: [U.S. Government agency]

[U.S. Government agency's address]

1. We hereby establish this irrevocable and transferable Letter of Credit in your favor for one or more drawings up to United States \$ _____. This Letter of Credit is payable at [issuing financial institution's and, if any, confirming financial institution's] office at [issuing financial institution's address and, if any, confirming financial institution's address] and expires with our close of business on _____, or any automatically extended expiration date.

2. We hereby undertake to honor your or the transferee's sight draft(s) drawn on the issuing or, if any, the confirming financial institution, for all or any part of this credit if presented with this Letter of Credit and confirmation, if any, at the office specified in paragraph 1 of this Letter of Credit on or before the expiration date or any automatically extended expiration date.

3. [This paragraph is omitted if used as a bid guarantee, and subsequent paragraphs are renumbered.] It is a condition of this Letter of Credit that it is deemed to be automatically extended without amendment for one year from the expiration date hereof, or any future expiration date, unless at least 60 days prior to any expiration date, we notify you or the transferee by registered mail, or other receipted means of delivery, that we elect not to consider this Letter of Credit renewed for any such additional period. At the time we notify you, we also agree to notify the account party (and confirming financial institution, if any) by the same means of delivery.

4. This Letter of Credit is transferable. Transfers and assignments of proceeds are to be effected without charge to either the beneficiary or the transferee/assignee of proceeds. Such transfer or assignment shall be only at the written direction of the Government (the beneficiary) in a form satisfactory to the issuing financial institution and the confirming financial institution, if any.

5. This Letter of Credit is subject to the Uniform Customs and Practice (UCP) for Documentary Credits, 1993 Revision, International Chamber of Commerce Publication No. 500, and to the extent not inconsistent therewith, to the laws of _____ [state of confirming financial institution, if any, otherwise state of issuing financial institution].

6. If this credit expires during an interruption of business of this financial institution as described in Article 17 of the UCP, the financial institution specifically agrees to effect payment if this credit is drawn against within 30 days after the resumption of our business.

Sincerely,

[Issuing financial institution]

(f) The following format shall be used by the financial institution to confirm an ILC:

[Confirming Financial Institution's Letterhead or Name and Address]

(Date) _____

Our Letter of Credit Advice Number _____

Section 00800

Page 6 of 14

Amendment 0001

*Denotes Change

Beneficiary: _____ [U.S. Government agency]

Issuing Financial Institution: _____

Issuing Financial Institution's LC No.: _____

Gentlemen:

1. We hereby confirm the above indicated Letter of Credit, the original of which is attached, issued by _____ [name of issuing financial institution] for drawings of up to United States dollars _____/U.S. \$ _____ and expiring with our close of business on _____ [the expiration date], or any automatically extended expiration date.

2. Draft(s) drawn under the Letter of Credit and this Confirmation are payable at our office located at _____.

3. We hereby undertake to honor sight draft(s) drawn under and presented with the Letter of Credit and this Confirmation at our offices as specified herein.

4. [This paragraph is omitted if used as a bid guarantee, and subsequent paragraphs are renumbered.] It is a condition of this confirmation that it be deemed automatically extended without amendment for one year from the expiration date hereof, or any automatically extended expiration date, unless:

(a) At least 60 days prior to any such expiration date, we shall notify the Contracting Officer, or the transferee and the issuing financial institution, by registered mail or other receipted means of delivery, that we elect not to consider this confirmation extended for any such additional period; or

(b) The issuing financial institution shall have exercised its right to notify you or the transferee, the account party, and ourselves, of its election not to extend the expiration date of the Letter of Credit.

5. This confirmation is subject to the Uniform Customs and Practice (UCP) for Documentary Credits, 1993 Revision, International Chamber of Commerce Publication No. 500, and to the extent not inconsistent therewith, to the laws of _____ [state of confirming financial institution].

6. If this confirmation expires during an interruption of business of this financial institution as described in Article 17 of the UCP, we specifically agree to effect payment if this credit is drawn against within 30 days after the resumption of our business.

Sincerely,

[Confirming financial institution]

(g) The following format shall be used by the Contracting Officer for a sight draft to draw on the Letter of Credit:

SIGHT DRAFT

[City, State]

(Date) _____

[Name and address of financial institution]

Pay to the order of _____ [Beneficiary Agency] _____ the sum of United States \$ _____.
This draft is drawn under Irrevocable Letter of Credit No. _____.

[Beneficiary Agency]

By: _____

(End of clause)

52.228-15 Performance and Payment Bonds--Construction (JUL 2000)-

(a) Definitions. As used in this clause--

Original contract price means the award price of the contract; or, for requirements contracts, the price payable for the estimated total quantity; or, for indefinite-quantity contracts, the price payable for the specified minimum quantity. Original contract price does not include the price of any options, except those options exercised at the time of contract award.

(b) Amount of required bonds. Unless the resulting contract price is \$100,000 or less, the successful offeror shall furnish performance and payment bonds to the Contracting Officer as follows:

(1) Performance bonds (Standard Form 25). The penal amount of performance bonds at the time of contract award shall be 100 percent of the original contract price.

(2) Payment Bonds (Standard Form 25-A). The penal amount of payment bonds at the time of contract award shall be 100 percent of the original contract price.

(3) Additional bond protection. (i) The Government may require additional performance and payment bond protection if the contract price is increased. The increase in protection generally will equal 100 percent of the increase in contract price.

(ii) The Government may secure the additional protection by directing the Contractor to increase the penal amount of the existing bond or to obtain an additional bond.

(c) Furnishing executed bonds. The Contractor shall furnish all executed bonds, including any necessary reinsurance agreements, to the Contracting Officer, within the time period specified in the Bid Guarantee provision of the solicitation, or otherwise specified by the Contracting Officer, but in any event, before starting work.

(d) Surety or other security for bonds. The bonds shall be in the form of firm commitment, supported by corporate sureties whose names appear on the list contained in Treasury Department Circular 570, individual sureties, or by other acceptable security such as postal money order, certified check, cashier's check, irrevocable letter of credit, or, in accordance with Treasury Department regulations, certain bonds or notes of the United States. Treasury Circular 570 is published in the Federal Register or may be obtained from the U.S. Department of Treasury, Financial Management Service, Surety Bond Branch, 401 14th Street, NW, 2nd Floor, West Wing, Washington, DC 20227.

(e) Notice of subcontractor waiver of protection (40 U.S.C. 270b(c)). Any waiver of the right to sue on the payment bond is void unless it is in writing, signed by the person whose right is waived, and executed after such person has first furnished labor or material for use in the performance of the contract.

Section 00800

Page 8 of 14

Amendment 0001

*Denotes Change

(End of clause)

52.231-5000 EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE
MAR 1995)--EFARS

(a) This clause does not apply to terminations. See 52.249-5000, Basis for Settlement of Proposals and FAR Part 49.

(b) Allowable cost for construction and marine plant and equipment in sound workable condition owned or controlled and furnished by a contractor or subcontractor at any tier shall be based on actual cost data for each piece of equipment or groups of similar serial and series for which the Government can determine both ownership and operating costs from the contractor's accounting records. When both ownership and operating costs cannot be determined for any piece of equipment or groups of similar serial or series equipment from the contractor's accounting records, costs for that equipment shall be based upon the applicable provisions of EP 1110-1-8, Construction Equipment Ownership and Operating Expense Schedule, Region _____. Working conditions shall be considered to be average for determining equipment rates using the schedule unless specified otherwise by the contracting officer. For equipment not included in the schedule, rates for comparable pieces of equipment may be used or a rate may be developed using the formula provided in the schedule. For forward pricing, the schedule in effect at the time of negotiations shall apply. For retroactive pricing, the schedule in effect at the time the work was performed shall apply.

(c) Equipment rental costs are allowable, subject to the provisions of FAR 31.105(d)(ii) and FAR 31.205-36. Rates for equipment rented from an organization under common control, lease-purchase arrangements, and sale-leaseback arrangements, will be determined using the schedule, except that actual rates will be used for equipment leased from an organization under common control that has an established practice of leasing the same or similar equipment to unaffiliated lessees.

(d) When actual equipment costs are proposed and the total amount of the pricing action exceeds the small purchase threshold, the contracting officer shall request the contractor to submit either certified cost or pricing data, or partial/limited data, as appropriate. The data shall be submitted on Standard Form 1411, Contract Pricing Proposal Cover Sheet.

(End of clause)

52.232-33 PAYMENT BY ELECTRONIC FUNDS TRANSFER—CENTRAL CONTRACTOR
REGISTRATION (OCT 2003)

(a) Method of payment. (1) All payments by the Government under this contract shall be made by electronic funds transfer (EFT), except as provided in paragraph (a)(2) of this clause. As used in this clause, the term "EFT" refers to the funds transfer and may also include the payment information transfer.

(2) In the event the Government is unable to release one or more payments by EFT, the Contractor agrees to either--

(i) Accept payment by check or some other mutually agreeable method of payment; or

(ii) Request the Government to extend the payment due date until such time as the Government can make payment by EFT (but see paragraph (d) of this clause).

(b) Contractor's EFT information. The Government shall make payment to the Contractor using the EFT information contained in the Central Contractor Registration (CCR) database. In the event that the EFT information changes, the Contractor shall be responsible for providing the updated information to the CCR database.

(c) Mechanisms for EFT payment. The Government may make payment by EFT through either the Automated Clearing House (ACH) network, subject to the rules of the National Automated Clearing House Association, or the Fedwire Transfer System. The rules governing Federal payments through the ACH are contained in 31 CFR part 210.

(d) Suspension of payment. If the Contractor's EFT information in the CCR database is incorrect, then the Government need not make payment to the Contractor under this contract until correct EFT information is entered into the CCR database; and any invoice or contract financing request shall be deemed not to be a proper invoice for the purpose of prompt payment under this contract. The prompt payment terms of the contract regarding notice of an improper invoice and delays in accrual of interest penalties apply.

(e) Liability for uncompleted or erroneous transfers. (1) If an uncompleted or erroneous transfer occurs because the Government used the Contractor's EFT information incorrectly, the Government remains responsible for--

(i) Making a correct payment;

(ii) Paying any prompt payment penalty due; and

(iii) Recovering any erroneously directed funds.

(2) If an uncompleted or erroneous transfer occurs because the Contractor's EFT information was incorrect, or was revised within 30 days of Government release of the EFT payment transaction instruction to the Federal Reserve System, and--

(i) If the funds are no longer under the control of the payment office, the Government is deemed to have made payment and the Contractor is responsible for recovery of any erroneously directed funds; or

(ii) If the funds remain under the control of the payment office, the Government shall not make payment, and the provisions of paragraph (d) of this clause shall apply.

(f) EFT and prompt payment. A payment shall be deemed to have been made in a timely manner in accordance with the prompt payment terms of this contract if, in the EFT payment transaction instruction released to the Federal Reserve System, the date specified for settlement of the payment is on or before the prompt payment due date, provided the specified payment date is a valid date under the rules of the Federal Reserve System.

(g) EFT and assignment of claims. If the Contractor assigns the proceeds of this contract as provided for in the assignment of claims terms of this contract, the Contractor shall require as a condition of any such assignment, that the assignee shall register separately in the CCR database and shall be paid by EFT in accordance with the terms of this clause. Notwithstanding any other requirement of this contract, payment to an ultimate recipient other than the Contractor, or a financial institution properly recognized under an assignment of claims pursuant to subpart 32.8, is not permitted. In all respects, the requirements of this clause shall apply to the assignee as if it were the Contractor. EFT information that shows the ultimate recipient of the transfer to be other than the Contractor, in the absence of a proper assignment of claims acceptable to the Government, is incorrect EFT information within the meaning of paragraph (d) of this clause.

(h) Liability for change of EFT information by financial agent. The Government is not liable for errors resulting from changes to EFT information made by the Contractor's financial agent.

(i) Payment information. The payment or disbursing office shall forward to the Contractor available payment information that is suitable for transmission as of the date of release of the EFT instruction to the Federal Reserve System. The Government may request the Contractor to designate a desired format and method(s) for delivery of payment information from a list of formats and methods the payment office is capable of executing. However, the Government does not guarantee that any particular format or method of delivery is available at any particular payment office and retains the latitude to use the format and delivery method most convenient to the Government. If the Government makes payment by check in accordance with paragraph (a) of this clause, the Government shall mail the payment information to the remittance address contained in the CCR database.

(End of Clause)

52.236-4 PHYSICAL DATA (APR 1984)

Data and information furnished or referred to below is for the Contractor's information. The Government shall not be responsible for any interpretation of or conclusion drawn from the data or information by the Contractor.

- (a) The indications of physical conditions on the drawings and in the specifications are the result of site investigations by surveys and test borings.
- (b) Weather conditions. The contractor shall satisfy himself as to the hazards likely to arise from weather conditions.
- (c) Transportation facilities. The contractor shall make his own investigation of the conditions of existing public and private roads and clearances, restrictions, bridge load limits and other limitations affecting transportation and ingress and egress at the job site. The unavailability of transportation facilities or limitations thereof shall not become a basis for claims against the Government or extensions of time for completion of work.

(End of clause)

52.236-16 QUANTITY SURVEYS (APR 1984) - ALTERNATE I (APR 1984)

- (a) Quantity surveys shall be conducted, and the data derived from these surveys shall be used in computing the quantities of work performed and the actual construction completed and in place.
- (b) The Contractor shall conduct the original and final surveys and surveys for any periods for which progress payments are requested. All these surveys shall be conducted under the direction of a representative of the Contracting Officer, unless the Contracting Officer waives this requirement in a specific instance. The Government shall make such computations as are necessary to determine the quantities of work performed or finally in place. The Contractor shall make the computations based on the surveys for any periods for which progress payments are requested.
- (c) Promptly upon completing a survey, the Contractor shall furnish the originals of all field notes and all other records relating to the survey or to the layout of the work to the Contracting Officer, who shall use them as necessary to determine the amount of progress payments. The

Contractor shall retain copies of all such material furnished to the Contracting Officer.

(End of clause)

52.236-21 SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (FEB 1997)

- (a) The Contractor shall keep on the work site a copy of the drawings and specifications and shall at all times give the Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In case of discrepancy in the figures, in the drawings, or in the specifications, the matter shall be promptly submitted to the Contracting Officer, who shall promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at its own risk and expense. The Contracting Officer shall furnish from time to time such detailed drawings and other information as considered necessary, unless otherwise provided.
- (b) Wherever in the specifications or upon the drawings the words "directed", "required", "ordered", "designated", "prescribed", or words of like import are used, it shall be understood that the "direction", "requirement", "order", "designation", or "prescription", of the Contracting Officer is intended and similarly the words "approved",

"acceptable", "satisfactory", or words of like import shall mean "approved by," or "acceptable to", or "satisfactory to" the Contracting Officer, unless otherwise expressly stated.

(c) Where "as shown," as indicated", "as detailed", or words of similar import are used, it shall be understood that the reference is made to the drawings accompanying this contract unless stated otherwise. The word "provided" as used herein shall be understood to mean "provide complete in place," that is "furnished and installed".

(d) Shop drawings means drawings, submitted to the Government by the Contractor, subcontractor, or any lower tier subcontractor pursuant to a construction contract, showing in detail (1) the proposed fabrication and assembly of structural elements, and (2) the installation (i.e., fit, and attachment details) of materials or equipment. It includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the contractor to explain in detail specific portions of the work required by the contract. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(e) If this contract requires shop drawings, the Contractor shall coordinate all such drawings, and review them for accuracy, completeness, and compliance with contract requirements and shall indicate its approval thereon as evidence of such coordination and review. Shop drawings submitted to the Contracting Officer without evidence of the Contractor's approval may be returned for resubmission. The Contracting Officer will indicate an approval or disapproval of the shop drawings and if not approved as submitted shall indicate the Government's reasons therefor. Any work done before such approval shall be at the Contractor's risk. Approval by the Contracting Officer shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract, except with respect to variations described and approved in accordance with (f) below.

(f) If shop drawings show variations from the contract requirements, the Contractor shall describe such variations in writing, separate from the drawings, at the time of submission. If the Contracting Officer approves any such variation, the Contracting Officer shall issue an appropriate contract modification, except that, if the variation is minor or does not involve a change in price or in time of performance, a modification need not be issued.

(g) The Contractor shall submit to the Contracting Officer for approval four copies (unless otherwise indicated) of all shop drawings as called for under the various headings of these specifications. Three sets (unless otherwise indicated) of all shop drawings, will be retained by the Contracting Officer and one set will be returned to the Contractor.

(End of clause)

52.249-5000 BASIS FOR SETTLEMENT OF PROPOSALS

Actual costs will be used to determine equipment costs for a settlement proposal submitted on the total cost basis under FAR 49.206-2(b). In evaluating a terminations settlement proposal using the total cost basis, the following principles will be applied to determine allowable equipment costs:

- (a) Actual costs for each piece of equipment, or groups of similar serial or series equipment, need not be available in the contractor's accounting records to determine total actual equipment costs.
- (b) If equipment costs have been allocated to a contract using predetermined rates, those charges will be adjusted to actual costs.
- (3) Recorded job costs adjusted for unallowable expenses will be used to determine equipment operating expenses.
- (4) Ownership costs (depreciation) will be determined using the contractor's depreciation schedule (subject to the provisions of FAR 31.205-11).
- (5) License, taxes, storage and insurance costs are normally recovered as an indirect expense and unless the contractor charges these costs directly to contracts, they will be recovered through the indirect expense rate.

(End of Clause)

252.236-7001 CONTRACT DRAWINGS, MAPS, AND SPECIFICATIONS (AUG 2000)

(a) The Government will provide to the Contractor, without charge, one set of contract drawings and specifications, except publications incorporated into the technical provisions by reference, in electronic or paper media as chosen by the Contracting Officer.

(b) The Contractor shall--

- (1) Check all drawings furnished immediately upon receipt;
- (2) Compare all drawings and verify the figures before laying out the work;
- (3) Promptly notify the Contracting Officer of any discrepancies;
- (4) Be responsible for any errors that might have been avoided by complying with this paragraph (b); and
- (5) Reproduce and print contract drawings and specifications as needed.

(c) In general--

- (1) Large-scale drawings shall govern small-scale drawings; and
- (2) The Contractor shall follow figures marked on drawings in preference to scale measurements.

(d) Omissions from the drawings or specifications or the misdescription of details of work that are manifestly necessary to carry out the intent of the drawings and specifications, or that are customarily performed, shall not relieve the Contractor from performing such omitted or misdescribed details of the work. The Contractor shall perform such details as if fully and correctly set forth and described in the drawings and specifications.

(e) The work shall conform to the specifications and the contract drawings identified on the following index of drawings:

Title	File	Drawing No.
See Drawing List		
(End of clause)		

52.232-5001 CONTINUING CONTRACTS (MAR 1995)--EFARS

(a) This is a continuing contract, as authorized by Section 10 of the River and Harbor Act of September 22, 1922 (33 U.S. Code 621). The payment of some portion of the contract price is dependent upon reservations of funds from future appropriations, and from future contribution to the project having one or more non-federal project sponsors. The responsibilities of the Government are limited by this clause notwithstanding any contrary provision of the "Payments to Contractor" clause or any other clause of this contract.

(b) The sum of \$100,000.00 has been reserved for this contract and is available for payments to the contractor during the current fiscal year. It is expected that Congress will make appropriations for future fiscal years from which additional funds together with funds provided by one or more non-federal project sponsors will be reserved for this contract.

(c) Failure to make payments in excess of the amount currently reserved, or that may be reserved from time to time, shall not entitle the contractor to a price adjustment under the terms of this contract except as specifically provided in paragraphs (f) and (i) below. No such failure shall constitute a breach of this contract, except that this provision shall not bar a breach-of-contract action if an amount finally determined to be due as a termination allowance remains unpaid for one year due solely to a failure to reserve sufficient additional funds therefore.

Section 00800

Page 13 of 14

Amendment 0001

*Denotes Change

(d) The Government may at any time reserve additional funds for payments under the contract if there are funds available for such purpose. The contracting officer will promptly notify the contractor of any additional funds reserved for the contract by issuing an administrative modification to the contract.

(e) If earnings will be such that funds reserved for the contract will be exhausted before the end of any fiscal year, the contractor shall give written notice to the contracting officer of the estimated date of exhaustion and the amount of additional funds which will be needed to meet payments due or to become due under the contract during that fiscal year. This notice shall be given not less than 45 nor more than 60 days prior to the estimated date of exhaustion.

(f) No payments will be made after exhaustion of funds except to the extent that additional funds are reserved for the contract. The contractor shall be entitled to simple interest on any payment that the contracting officer determines was actually earned under the terms of the contract and would have been made except for exhaustion of funds. Interest shall be computed from the time such payment would otherwise have been made until actually or constructively made, and shall be at the rate established by the Secretary of the Treasury pursuant to Public Law 92-41, 85 STAT 97, as in effect on the first day of the delay in such payment.

(g) Any suspension, delay, or interruption of work arising from exhaustion or anticipated exhaustion of funds shall not constitute a breach of this contract and shall not entitle the contractor to any price adjustment under the "Suspension of Work" clause or in any other manner under this contract.

(h) An equitable adjustment in performance time shall be made for any increase in the time required for performance of any part of the work arising from exhaustion of funds or the reasonable anticipation of exhaustion of funds.

(i) If, upon the expiration of sixty (60) days after the beginning of the fiscal year following an exhaustion of funds, the Government has failed to reserve sufficient additional funds to cover payments otherwise due, the contractor, by written notice delivered to the contracting officer at any time before such additional funds are reserved, may elect to treat his right to proceed with the work as having been terminated. Such a termination shall be considered a termination for the convenience of the Government.

(j) If at any time it becomes apparent that the funds reserved for any fiscal year are in excess of the funds required to meet all payments due or to become due the contractor because of work performed and to be performed under the contract during the fiscal year, the Government reserves the right, after notice to the contractor, to reduce said reservation by the amount of such excess.

(End of clause)

SECTION TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01202

GENERAL REQUIREMENTS

PART 1 GENERAL

- 1.1 APPLICABLE PUBLICATIONS
- 1.2 SUBMITTALS
- 1.3 PART A GENERAL REQUIREMENTS
 - 1.3.1 Description
 - 1.3.2 Temporary Electric Wiring
 - 1.3.2.1 Electricity
 - 1.3.2.2 Temporary Power and Lighting
 - 1.3.2.3 Construction Equipment
 - 1.3.2.4 Circuit Protection
 - 1.3.3 Protection of Existing Work
 - 1.3.4 Public Utilities and Notices
 - 1.3.4.1 General
 - 1.3.4.2 Relocation or Removal
 - 1.3.4.3 Utilities Not Shown
 - 1.3.4.4 Coordination
 - 1.3.5 Notices
 - 1.3.5.1 Utilities to be Relocated or Protected
 - 1.3.5.2 Contracting Officer Notice
 - 1.3.5.3 Existing Bench Marks and R/W Markers
 - 1.3.5.4 Spill Reporting
 - 1.3.5.5 Identification of Vehicles
 - 1.3.5.6 Construction Method Observation
 - 1.3.5.7 Contractor's Equipment
 - 1.3.6 Public Safety
 - 1.3.7 General Safety Requirements
 - 1.3.7.1 General
 - 1.3.7.2 The Prime Contractor's Superintendent
 - 1.3.7.3 Activity Hazard Analysis
 - 1.3.7.4 Violations
 - 1.3.8 Fire Prevention
 - 1.3.9 Recordkeeping/Reporting Requirements
 - 1.3.10 Accident Reports
 - 1.3.11 Accident Reporting
 - 1.3.12 Notice of Partnership
 - 1.3.13 Required Insurance
 - 1.3.13.1 General
 - 1.3.13.2 Insurance
 - 1.3.13.3 Liability Insurance
 - 1.3.13.4 Fire and Extended Coverage
 - 1.3.13.5 Worker's Compensation
 - 1.3.13.6 Procuring of Required Policy
 - 1.3.13.7 Contractor Agrees to Indemnify
 - 1.3.14 Time Extension for Unusually Severe Weather
 - 1.3.15 Progress Payments
 - 1.3.15.1 Partial Pay Estimates
 - 1.3.15.2 Forecasting of Future Progress Payment
 - 1.3.16 Reference to FAR 52.236.16 Quantity Surveys (Alternate I)
- 1.4 PART B GENERAL REQUIREMENTS

- 1.4.1 Description
- 1.4.2 Description of Work
- 1.4.3 Location of Sites
- 1.4.4 Contract Drawings and Specifications
- 1.4.5 Review of Contract Documents, Plans and Specifications by Contractor
- 1.4.6 Local Conditions
- 1.4.7 Interpretation of Plans
- 1.4.8 Quantities of Work
- 1.4.9 Reasonably Implied Parts of the Work Shall be Done Although Absent from Specifications
- 1.4.10 Work Schedule
- 1.4.11 Notifications
 - 1.4.11.1 Specific Work
 - 1.4.11.2 Start of Construction
 - 1.4.11.3 Residents
- 1.4.12 Pre-Construction Meeting
- 1.4.13 Site Protection
- 1.4.14 Contamination
- 1.4.15 Removal and Salvaging
- 1.4.16 Disposal of Material
- 1.4.17 Safety Requirements
- 1.4.18 Laws, Regulations, and Permits
- 1.4.19 Railroad Crossings
- 1.4.20 Examination of the Site
- 1.4.21 Inspection and Approval
- 1.4.22 Relocate Work Heading
- 1.4.23 Cooperation with Others
- 1.4.24 Conferences
- 1.4.25 Right-of-Way
- 1.4.26 Permits
- 1.4.27 Location of Existing Facilities
- 1.4.28 Joining to Existing Pipelines
- 1.4.29 Minimum Cover Over Pipelines
- 1.4.30 Rock Encountered During Construction
- 1.4.31 Archaeological or Historical Resources
- 1.4.32 Authorization to Proceed with Changes in the Work
- 1.4.33 Asbestos Cement Pipe
- 1.4.34 Existing Concrete Pavement
- 1.4.35 Maintaining Water Service During Construction
- 1.4.36 Construction Staking
 - 1.4.36.1 Lines and Grades
 - 1.4.36.2 Construction Staking
 - 1.4.36.3 Survey Monuments
- 1.4.37 Dust Control
- 1.4.38 Fire Danger
- 1.4.39 Access Roads and Parking Areas
- 1.4.40 Storage Yards And Staging Areas
- 1.4.41 Temporary Water
- 1.4.42 Temporary Electric Power
- 1.4.43 Sanitary Facilities
- 1.4.44 Telephone
- 1.4.45 Covering of Pipe Ends
- 1.4.46 Vibratory Equipment
- 1.4.47 Noise Ordinance
- 1.4.48 Staging and Disposal
- 1.4.49 Safety Specialist, Superintendent Emergency Phone
- 1.4.50 Night Work
- 1.4.51 Use of Explosives

- 1.4.52 Cleaning During Construction & Final Cleaning - General
- 1.4.53 Cleaning During Construction
- 1.4.54 Final Cleaning
- 1.4.55 Guarantee
- 1.4.56 Correction of Defects
- 1.4.57 Contractor's Failure to Correct
- 1.4.58 Record Drawings
- 1.5 SPECIAL REQUIREMENTS
 - 1.5.1 Description
 - 1.5.2 Conditions

PART 2 PRODUCTS

- 2.1 Availability of Materials

PART 3 EXECUTION

- 3.1 Connection to Existing Recycled and Potable Water Pipeline
 - 3.1.1 Notification
 - 3.1.2 Notice to Proceed
 - 3.1.3 Material
 - 3.1.4 Dewatering
 - 3.1.5 Inadequate Progress
 - 3.1.6 Connections
 - 3.1.7 Testing
- 3.2 Removal From Service of Existing Mains And Appurtenances
 - 3.2.1 General
 - 3.2.2 Method of Abandonment
 - 3.2.3 Storage of Removed Material
 - 3.2.4 Maintenance of Service
- 3.3 Safety
- 3.4 Excavation Plan for Worker Protection Required by Labor Code Section 6705
- 3.5 Assignment and Experience of Supervisors
- 3.6 Exposure of Utilities in Advance of Work
- 3.7 Advanced Notification
- 3.8 Reporting
- 3.9 Traffic Regulation Standard Specifications and References
- 3.10 Traffic Control Submittals
- 3.11 Traffic Control
- 3.12 Vehicular Traffic Control
 - 3.12.1 Guidelines
 - 3.12.2 Detours
 - 3.12.3 Equipment and Material Storage
- 3.13 Pedestrian Traffic Control
 - 3.13.1 Pedestrian Traffic
 - 3.13.2 Construction Fence
 - 3.13.3 Special Considerations at Schools
- 3.14 Access to Adjacent Properties
 - 3.14.1 General
 - 3.14.2 Commercial Access
 - 3.14.3 Emergency Access
- 3.15 Permanent Traffic Control Devices
 - 3.15.1 General
 - 3.15.2 Traffic Signals
 - 3.15.3 Traffic Control Detection Loops
 - 3.15.4 Traffic Signal Conduits and Wires
 - 3.15.5 Restriping of Streets
 - 3.15.6 Street Lighting

-- End of Section Table of Contents --

SECTION 01202

GENERAL REQUIREMENTS

PART 1 GENERAL

1.1 APPLICABLE PUBLICATIONS

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

CFR 29 Part 1926 Safety and Health Regulations for
Construction

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (1996) U.S. Army Corps of Engineers Safety
and Health Requirements Manual

1.2 SUBMITTALS

SD-01 Preconstruction Submittals

Work Notification; G

The Contractor shall notify the Contracting Officer a minimum of three (3) business days prior to any construction activities requiring relocation of existing utilities.

Activity Hazards Safety Analysis

Activity Hazards Safety Analysis of each major phase of work prior to entering that phase of activity.

Excavation Plan; G

Detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of any trench or trenches 4 feet or more in depth.

Alternate Traffic Control Plan; G

Alternate Traffic Control Plan prepared, signed, and sealed by a California licensed civil or traffic engineer submitted to the jurisdictional agency for the Project area for approval not less than five working days prior to the start of operations involving or requiring traffic control.

Storm Water Pollution Prevention Plan (SWPPP)

A Storm Water Pollution Prevention Plan (SWPPP) to prevent project-related storm water runoff into the waters of the United States.

SD-06 Test Reports

Accident Report

A written summary of worker's compensation claims filed by workers on the project.

Monthly Written Narrative Work Status Reports

Monthly written narrative work status reports of the status of the Work.

1.3 PART A GENERAL REQUIREMENTS

1.3.1 Description

This paragraph contains Part A of the general requirements and information of the Work.

1.3.2 Temporary Electric Wiring

1.3.2.1 Electricity

All electric power required for construction of the work required by this contract and for testing electrical circuits and devices shall be Contractor-furnished. The Contractor shall make all arrangements with the electric power company for relocation of all power lines that interfere with the required work. The location of all power lines and all temporary connections for electricity shall be approved by the Contracting Officer. The distribution system for the project, including substations, lines, connections and metering facilities shall be provided, connected, and maintained by the Contractor. The temporary electrical facilities for the project shall be removed by the Contractor prior to final acceptance of the construction. All overhead electrical power lines in the project area, whether existing or erected by the Contractor, shall meet the clearance requirements stated in Section 15 of the latest version of EM 385-1-1. Any existing overhead electrical power lines in the project area that do not meet these requirements shall be brought in compliance by the Contractor. These requirements apply to all energized power lines over all work, storage areas, and haul roads.

1.3.2.2 Temporary Power and Lighting

The Contractor shall provide construction power facilities in accordance with the safety requirements of NFPA 70 and EM 385-1-1. The Contractor shall enforce all the safety requirements of electrical extensions for the work of all subcontractors. All work shall be accomplished by skilled electrical tradesmen in a workmanlike manner, as approved by the Contracting Officer.

1.3.2.3 Construction Equipment

In addition to the requirements of EM 385-1-1, all temporary wiring conductors installed for operation of construction tools and equipment shall be either Type TW or THW contained in metal raceways, or may be multiconductor cord. Temporary wiring shall be secured above the ground or floor in a workmanlike manner and shall not present an obstacle to persons or equipment. Open wiring may only be used outside of buildings, and then only in strict accordance with the provisions of the National Electrical Code.

1.3.2.4 Circuit Protection

All 15- and 20-ampere outlets which are not a part of the permanent wiring of a building or structure, shall have ground fault circuit interrupters (GFI) for personnel protection. GFI shall be provided for extension cords and for all permanent receptacles that are not properly grounded. A testing means shall be provided which will impose a measured fault of 5 milliamperes and result in tripping the GFI unit.

1.3.3 Protection of Existing Work

Before beginning any cutting or removal work, the Contractor shall carefully survey the existing work and examine the drawings and specifications to determine the extent of the work. The Contractor shall take all necessary precautions to insure against damage to existing work to remain in place, to be reused, or to remain the property of the Government, and any damage to such work shall be repaired or replaced as approved by the Contracting Officer at no additional cost to the Government. The Contractor shall carefully coordinate the work of this section with all other work and construct and maintain shoring, bracing and supports, as required. The Contractor shall insure that structural elements are not overloaded and be responsible for increasing structural supports or adding new supports as may be required as a result of any cutting, removal, or demolition work performed under any part of this Contract.

1.3.4 Public Utilities and Notices

1.3.4.1 General

The approximate location of all pipe lines, power and communication lines, and other utilities known to exist within the limits of the work are as indicated on the drawings and/or visually verified in the field. The sizes, locations, and names of owners of such utilities are given from available information, but their accuracy is not guaranteed. Except as otherwise indicated on the drawings, all existing utilities will be left in place and the Contractor shall conduct his operations in such a manner that the utilities will be protected from damage at all times, or arrangements shall be made by the Contractor for their relocation at the Contractor's own expense. The Contractor shall be responsible for any damage to utilities known to exist and shall reimburse the owners for such damage caused by his operations.

1.3.4.2 Relocation or Removal

Utilities to be relocated or removed not as part of this contract are designated "To be Relocated by Others" or "To be Removed by Others", respectively. Utilities shown on the plans and not so designated will be left in place and be subject to the provisions of the CONTRACT CLAUSE: PROTECTION OF EXISTING VEGETATION, STRUCTURES, UTILITIES, AND IMPROVEMENTS.

The Contractor may make arrangements with the owner for the temporary relocation and restoration of utilities not designated to be relocated, or for additional work in excess of the work needed to relocate utilities designated for relocation at no additional cost to the Government.

1.3.4.3 Utilities Not Shown

If the Contractor encounters, within the construction limits of the entire project, utilities not shown on the plans and not visible as of the date of this contract and if such utilities will interfere with construction

operations, he shall immediately notify the Contracting Officer in writing to enable a determination by the Contracting Officer as to the necessity for removal or relocation. If such utilities are left in place, removed or relocated, as directed by the Contracting Officer, the Contractor shall be entitled to an equitable adjustment for any additional work or delay.

1.3.4.4 Coordination

The Contractor shall consult and cooperate with the owner of utilities that are to be relocated or removed to establish a mutual performance schedule and to enable coordination of such work with the construction work. These consultations shall be held as soon as possible after award of the contract or sufficiently in advance of anticipated interference with construction operations to provide required time for the removal or relocation of affected utilities.

1.3.5 Notices

1.3.5.1 Utilities to be Relocated or Protected

The Contractor shall notify the Contracting Officer, in writing, 14 calendar days prior to starting work on any utility to be relocated or protected. On each relocation, notification shall include dates on which the Contractor plans excavation, by pass work, removal work and/or installation work, as applicable. The Contractor shall also notify the representatives of utility owners not less than 30 days, unless otherwise specified, prior to start of work in the vicinity of their respective utilities:

1.3.5.2 Contracting Officer Notice

The Contractor shall notify the Contracting Officer, in writing, not less than 14 days in advance of the date on which he will complete trenching, excavation, fill or rough grading, as applicable, at each location where such completed work is required for temporary or permanent relocations by others. The Contractor shall allow a period of 14 calendar days at each relocation, after which time the Contractor may resume his operations.

1.3.5.3 Existing Bench Marks and R/W Markers

The Contractor shall notify the Contracting Officer, in writing, 7 days in advance of the time he proposes to remove any bench mark or right of way marker.

1.3.5.4 Spill Reporting

The Contractor shall notify the Contracting Officer immediately after all spills, regardless of quantity, including all personnel exposures. The Contractor shall submit a written notification not later than 7 calendar days after the initial notification. The written notification shall include the following:

- a. Item spilled, leaked or releases in an unauthorized manner (Identification, Quantity and Manifest Numbers).
- b. Whether the amount spilled, leaked or released in an unauthorized manner is EPA reportable and, if reported, a copy of the report.

- c. Exact location of the spill, leak or unauthorized release.
- d. Nature of exposure to personnel.
- e. Containment procedures initiated.
- f. Anticipated cleanup and disposal procedures.
- g. Disposal location of spill, leak or unauthorized release residue.

1.3.5.5 Identification of Vehicles

All the Contractor's vehicles shall display suitable permanent identification.

1.3.5.6 Construction Method Observation

Any construction method, plant, or piece of equipment used on this contract shall not be considered proprietary, and can be inspected or photographed at any time by the Government, regulatory agencies, or any group approved by the Government.

1.3.5.7 Contractor's Equipment

The planned method of transportation and operation of cranes and other heavy equipment to be used in the performance of this contract shall be submitted for approval by the Contracting Officer. The plan shall include the type, size, loadings of equipment, the proposed transportation routes, and work areas to be used on the project.

1.3.6 Public Safety

Attention is invited to the CONTRACT CLAUSE: PERMITS AND ESPONSIBILITIES. The Contractor shall provide temporary fencing, barricades, and/or guards, as required, to provide protection in the interest of public safety. Whenever the Contractor's operations create a condition hazardous to the public, he shall furnish at his own expense and without cost to the Government, such flagmen and guards as are necessary to give adequate warning to the public of any dangerous conditions to be encountered and he shall furnish, erect, or maintain such fences, barricades, lights, signs and other devices as are necessary to prevent accidents and avoid damage or injury to the public. Flagmen and guards, while on duty and assigned to give warning and safety devices shall conform to applicable city, county, and state requirements. Should the Contractor appear to be neglectful or negligent in furnishing adequate warning and protection measures, the Contracting Officer may direct attention to the existence of a hazard and the necessary warning and protective measures shall be furnished and installed by the Contractor without additional cost to the Government. Should the Contracting Officer point out the inadequacy of warning and protective measures, such action of the Contracting Officer shall not relieve the Contractor from any responsibility for public safety or abrogate his obligation to furnish and pay for those devices. The installation of any general illumination shall not relieve the Contractor of his responsibility for furnishing and maintaining any protective facility.

1.3.7 General Safety Requirements

1.3.7.1 General

The Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, (see CONTRACT CLAUSES: ACCIDENT PREVENTION) and the Occupational Safety and Health Act (OSHA) Standards for Construction (Title 29, Code of Federal Regulations Parts 1910 and 1926 as revised from time to time) and Cal/OSHA Title 8 Regulations are applicable to this contract. In case of conflict, the most stringent requirement of the standards is applicable. Pursuant to EM 385-1-1, the Contractor shall submit a Site-specific Safety and Health Plan.

1.3.7.2 The Prime Contractor's Superintendent

The Prime Contractor's superintendent shall take an active role in enforcing the safety requirements by participation in safety conferences, hazard analysis (see below), tool box meetings, walk-through inspections, correction of violations, etc., and including that of the subcontractor's work.

1.3.7.3 Activity Hazard Analysis

Based on the construction schedule, the Contractor shall submit a Activity Hazards Safety Analysis of each major phase of work prior to entering that phase of activity. The analysis shall include major or high risk hazards, as well as commonly recurring deficiencies that might possibly be encountered for that operation, and shall identify proposed methods and techniques of accomplishing each phase in a safe manner. The Prime Contractor's superintendent shall take active participation in the Activity Hazards Analysis, including the subcontractors' work. Prior to start of actual work a meeting shall be held with Prime Contractor, Government, and affected subcontractor to review the Activity Hazard Analysis. In addition, job site meetings shall be held to indoctrinate foreman and workers on details of this analysis.

1.3.7.4 Violations

If recurring violations and/or gross violation indicate that the safety performance is unsatisfactory, corrective action shall be taken as directed, and at the discretion of the Contracting Officer's Representative the retention or some part thereof will be withheld from the progress payment until corrective action has been completed.

1.3.8 Fire Prevention

Cutting or welding will be permitted only in areas that are or have been made fire safe. Where possible, all combustibles shall be located at least 36 feet horizontally from the work site. Where such location is impracticable, combustibles shall be protected with flame-proofed covers or otherwise shielded with metal or asbestos guards or curtains. Edges of covers at the floor shall be tight to prevent sparks from going under them. This precaution is also important at overlaps where several covers are used to protect a large pile. Other fire prevention precautions shall be in accordance with the latest National Fire Codes.

1.3.9 Recordkeeping/Reporting Requirements

On all contract operations, the Prime Contractor shall be responsible for recording and reporting all accident exposure and experience incident work. (This includes exposure and experience of the prime contractor and his/her

sub-contractor(s)). As a minimum these records shall include exposure work-hours and a log of occupational injuries and illnesses. (OSHA Form 200 or state equivalent as prescribed by CFR 29 Part 1926) Reference EM 385-1-1.

1.3.10 Accident Reports

As part of the requirements for reporting accidents in accordance with EM 385-1-1, Section 1, the Prime Contractor will submit at the 50% point and 100% of project completion, a written summary of worker's compensation claims filed by workers on the project. The accident report will include all subcontractors. The main report covering the Prime Contractor claims will be certified as "correct and true" by the Contractor's compensation insurance carrier. The same certification will be required for subcontractor reports.

1.3.11 Accident Reporting

All mishaps shall be reported to the Corps of Engineers as follows:

Report immediately for fatal injury, and/or three or more persons admitted to a hospital, and/or property damage in excess of \$200,000.

Report within 12 hours of occurrence for all other incidents.

Incidents shall be reported to the Corps Resident Engineer (Mr. Stan Fujimoto, (626)401-4084), and to the Corps Safety Manager (Ms. Susan C. Tianen, (213) 452-3898 (office), (213) 379-1665 (cell), (818) 236-8435(pager)).

1.3.12 Notice of Partnership

The Government intends to encourage the foundation of a cohesive partnership with the Contractor and its subcontractors. This partnership will be structured to draw on the strengths of each organization to identify and achieve reciprocal goals. The objectives are effective and efficient contract performance and intended to achieve completion within budget, on schedule, and in accordance with plans and specifications: and to develop a single cooperative management team focused on the success of the project to mutual benefit of all stakeholders. This partnership would be bilateral in makeup, and participation will be totally voluntary. Any cost associated with effectuating this partnership will be agreed to by both parties and will be shared equally with no change in contract price. An integral aspect of partnering is the resolution of disputes in a timely, professional, and non-adversarial manner through the use of issue clarification and problem solving. Alternate Dispute Resolution (ADR) methodologies will be encouraged in place of more formal dispute resolution procedures. ADR will assist in promoting and maintaining an amicable working relationship to preserve the partnership. ADR is a voluntary, nonbinding procedure available for use by the parties to this contract to resolve any dispute that may arise during performance. To implement this partnership initiative it is anticipated that within 60 days of Notice to Proceed the Contractor's on-site project manager and the Government's Resident Engineer would attend a two-day partnership development seminar/team building workshop together with the Contractor's key on-site staff and key Government personnel. Follow-up workshops of 1 to 2 days duration would be held periodically throughout the duration of the contract as agreed to by the Contractor and Government.

1.3.13 Required Insurance

1.3.13.1 General

The Contractor shall maintain insurance in full force and effect throughout the term of this contract. The policy or policies of insurance maintained by the Contractor shall provide the limits and coverages as set forth herein below.

1.3.13.2 Insurance

Insurance shall be in force the first day of the term of this contract.

- a. "This insurance shall not be canceled, limited in scope of coverage or non-renewed until after 30 days written notice has been given to West Basin Municipal Water District, Attention: Paul Cooks, Assistant Manager of Engineering, 17140 S. Avalon Blvd, Suite 210, Carson, CA 90746-1296.
- b. "All rights of subrogation are hereby waived against the West Basin Municipal Water District and the members of the Board and elective or appointive officers or employees, when acting within the scope of their employment or appointment."
- c. "As respects operation of the named insured performed on behalf of the Government, the following are added as additional insureds:
 1. The West Basin Municipal Water District.
- d. "It is agreed that any insurance maintained by the West Basin Municipal Water District will apply in excess of, and not contribute with, insurance provided by this policy.

LIABILITY INSURANCE

COVERAGE	MINIMUM LIMITS
Comprehensive General Liability including Completed Operation and a Broad Form Property Endorsement and Comprehensive Automobile Liability	\$2,000,000 combined single limit per occurrence.
Worker's Compensation	Statutory

1.3.13.3 Liability Insurance

Any liability insurance required by this contract shall not contain exclusions or endorsements which eliminate or limit coverage for the following:

- a. Claims of liability for bodily injury or property damage caused by, resulting from, attributable or contributed to, or aggravated by the subsidence or other movement of soils or land as a result of landslide, consolidation, expansion, creep, shifting, sinking, or mud flow;
- b. Claims of liability for bodily injury or property damage caused by, resulting from, attributable or contributed to, or aggravated by the actual, alleged, or threatened discharge, dispersal, release or escape of any pollutants;

- c. Completed Operations coverage;
- d. Products coverage;
- e. Broad Form Property Damage coverage;

1.3.13.4 Fire and Extended Coverage

The Contractor shall purchase a course of construction property insurance policy to cover structures (excluding reinforced concrete structures) being built under the terms of this contract to at least 90 percent of their replacement cost. As a minimum, coverage shall be provided for replacement cost and for fire and the extended coverage perils.

1.3.13.5 Worker's Compensation

Each liability and worker's compensation insurance policy required by this contract shall contain clause numbers 1.3.15.2. (a.) and 1.3.15.2 (c.) above, and the following clause: "It is agreed that any insurance maintained by the West Basin Municipal Water District will apply in excess of, and not contribute with, insurance provided by this policy."

1.3.13.6 Procuring of Required Policy

The procuring of such required policy or policies of insurance shall not be construed to limit Contractor's liability hereunder not to fulfill the indemnification provisions and requirements of this contract.

1.3.13.7 Contractor Agrees to Indemnify

Contractor agrees to indemnify and save harmless agency, its officers, employees, agents and volunteers from and against any and all claims, actions, losses, damages and/or liability arising out of this contract from any cause whatsoever, including the acts, errors or omissions of any person, except where such indemnification is prohibited by law.

1.3.14 Time Extension for Unusually Severe Weather

This provision specifies the procedure for determination of time extensions for unusually severe weather in accordance with the Contract Clause entitled: DEFAULT (FIXED PRICE CONSTRUCTION). The following schedule of monthly anticipated adverse weather delays is based on National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and will constitute the base line for monthly weather time evaluations. The Contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities. Adverse weather days were determined based on the following elements: Precipitation greater than or equal to 0.10 inch. Minimum temperature less than or equal to 32 degrees F. Maximum temperature greater than or equal to 100 degrees F.

MONTHLY ANTICIPATED ADVERSE WEATHER DELAY (Based on 5-day work week)

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
10	10	2	1	0	0	1	1	3	3	5	5

The above schedule of anticipated adverse weather will constitute the base line for monthly weather time evaluations. Upon acknowledgement of the

Notice to Proceed (NTP) and continuing throughout the contract, the Contractor will record on the daily CQC report, the occurrence of adverse weather and resultant impact to normally scheduled work. Actual adverse weather delay days must prevent work on critical activities for 50 percent or more of the Contractor's scheduled workday. The number of actual adverse weather days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), be calculated chronologically from the first to the last day of each month, and be recorded as full days. If the number of actual adverse weather delay days exceeds the number of days anticipated in paragraph above, the Contracting Officer will determine whether the Contractor is entitled to a time extension. The Contracting Officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a modification in accordance with the Contract Clause entitled: DEFAULT (FIXED PRICE CONSTRUCTION).

1.3.15 Progress Payments

1.3.15.1 Partial Pay Estimates

Partial pay estimates shall be submitted every month. The following items shall be submitted with the partial pay estimates to ensure prompt payment:

- a. Project schedule Narrative and Earnings reports.
- b. Safety report(s) in accordance with OSHA, CALOSHA, and the Corps of Engineers' EM 385-1-1.
- c. Updated/current submittal register as specified in SECTION 01330 SUBMITTAL PROCEDURES, paragraph: Submittal Register (ENG FORM 4288).
- d. Quality Control Reports as specified in SECTION 01451 CONTRACTOR QUALITY CONTROL, paragraph: Documentation.
- e. Updated forecasting of expenditure worksheets as specified in the paragraph below

1.3.15.2 Forecasting of Future Progress Payment

The Contracting Officer will provide a spreadsheet to the Contractor showing the different funding categories and their respective percentages for each bid item for the total contract amount after the issuance of notice to proceed (See attached FIGURE 1). Similar accounting information will be contained in any subsequent contract modification issued for this contract. Each pay period the Contractor shall forecast his expenditures for the following 3 pay periods, indicating the funding requirement for each accounting category. The updated work sheet (see FIGURE 2) shall be submitted with each partial pay estimate (e.g., submittal for partial pay estimate for the period of 15 DEC to 15 JAN will include a forecast of expenditures for the period of 15 JAN to 15 APR). Forecasting of expenditures is needed to assure sufficient funding for future progress payments. If the contractor's actual earnings for any particular partial pay estimate exceed the funding available for payment due to inaccurate submittal of forecast expenditures, the contracting office can reject the contractor's invoice as defective, and require the contractor to resubmit the invoice of an amount not exceeding the previously submitted forecast amounts.

1.3.16 Reference to FAR 52.236.16 Quantity Surveys (Alternate I)

Quantity surveys shall be conducted, and the data derived from these surveys shall be used in computing the quantities of work performed and the actual construction completed and in place.

The Contractor shall conduct the original and final surveys and surveys for any periods for which progress payments are requested. All these surveys shall be conducted under the direction of a representative of the Contracting Officer, unless the Contracting Officer waives this requirement in a specific instance. The Government shall make such computations as are necessary to determine the quantities of work performed or finally in place. The Contractor shall make the computations based on the surveys for any periods for which progress payments are requested.

Promptly upon completing a survey, the Contractor shall furnish the originals of all field notes and all other records relating to the survey or to the layout of the work to the Contracting Officer, who shall use them as necessary to determine the amount of progress payments. The Contractor shall retain copies of all such material furnished to the Contracting Officer.

1.4 PART B GENERAL REQUIREMENTS

1.4.1 Description

This paragraph contains Part B of the general requirements and information of the Work.

All references to Owner or Engineer shall mean the Corps of Engineers' Contracting Officer or his representative. All references to District shall mean the West Basin Municipal Water District.

1.4.2 Description of Work

The following is a description of the Work necessary to construct a recycled water transmission main consisting of 24-inch CML & tape wrapped with rock shield Steel Pipe, and 12-inch, 8-inch, 6-inch, and 4-inch AWWA C-900, Class 200 PVC pipe including tie-in connection to an existing, below-grade 30-inch ductile iron pipeline, fittings, valves, air/vacuum valve assemblies, blow-off assemblies, cathodic protection assemblies and test stations, one bore and jack, surface restoration, traffic control, and all other appurtenances, as shown on the drawings and indicated in the specifications. The work shall include, but not be limited to, the following:

1. Construct 24-inch diameter CML & Taped Wrapped with Rock Shield steel pipe.
2. Construct 12-inch Diameter AWWA C-900, Class 200 PVC Pipe.
3. Construct 8-inch diameter AWWA C-900, Class 200 PVC pipe.
4. Deleted.
5. Construct 6-inch diameter AWWA C-900, Class 200 PVC pipe.
6. Construct 4-inch diameter AWWA C-900, Class 200 PVC pipe.
- *7. Construct tie-in connection to existing **30-inch** recycled water transmission main.
8. Construct 45-inch diameter steel casing by bore and jack.
9. Deleted.
10. Construct air release/vacuum relief valves.
11. Construct blow-off assemblies.

12. Construct cathodic protection/testing assemblies.
13. Testing of pipeline facilities.
14. Provide traffic control.
15. Mobilization and demobilization.

1.4.3 Location of Sites

The project site consists of the following:

Pipeline construction within the City of Torrance for a recycled water main and two lateral services. The recycled water main extends south along Crenshaw Boulevard from a connection to an existing 30-inch recycled water line to Maricopa Street, west on Maricopa Street to Maple Avenue, south on Maple Avenue to Madrona Marsh just south of the intersection of Maple Avenue and Plaza Del Amo. The first lateral extends north along Maple Avenue to Civic Center Drive from the intersection of Maricopa Street and Maple Avenue, west on Civic Center Drive to Madrona Avenue, and north on Madrona Avenue to Del Thorne Park just south of the intersection of Madrona Avenue and Del Amo Boulevard. The second lateral extends east from the intersection of Maple Avenue and Plaza Del Amo to Crenshaw Boulevard, and turns south on Crenshaw. All alignments support lateral service connections to the street right-of-way.

1.4.4 Contract Drawings and Specifications

The Contract Drawings entitled Madrona Recycled Water Lateral are incorporated herein and made a part of the Specifications.

In addition, the following local jurisdictional standards and specifications are incorporated herein and made a part of the Specifications:

"Standard Specifications for Public Works Construction," latest edition as written and promulgated by the joint cooperative committee of the Southern California chapter of the APWA and the Southern California chapter of the A.G.C.C.

"Design Criteria, Supplemental Standard Specifications, and Standard Drawings for Reclaimed Water Facilities," latest edition available from West Basin Municipal Water District.

"City of Torrance Standard Plans for public Works Construction," latest edition available from the City of Torrance.

"City of Torrance Construction Traffic Control on City Streets," latest edition available from the City of Torrance.

American Water Works Association Standards, latest edition.

The report titled Geotechnical Investigation for the Madrona Marsh Recycled Water Pipeline West Basin Municipal Water District, city of Torrance, California, is incorporated herein and made a part of the specifications.

The Corps of Engineers-issued Finds of Not Significant Impacts (FONSI) is incorporated herein and made a part of the Specification.

The contract plans and specifications are to be downloaded from the Corps of Engineers' Contracting Website. The referenced reports are available

for viewing by appointment only:

US Army Corps of Engineers, Los Angeles District
Attn: Julie Ayala
915 Wilshire Boulevard
Los Angeles, CA 90017-3401
Telephone: 213-452-3241

1.4.5 Review of Contract Documents, Plans and Specifications by Contractor

Carefully study and compare the Contract Documents with each other and at once report to the Owner errors, inconsistencies or omissions discovered. The Owner shall not be liable to the Contractor for damage or delays resulting from errors, inconsistencies or omissions in the Contract Documents which should have been recognized by the Contractor and disclosed to the Owner. If the Contractor performs any construction activity knowing it involves a recognized error, inconsistency or omission in the Contract Documents without such notice to the Owner, the Contractor shall assume responsibility for such performance and shall bear the costs for corrections.

Take field measurements and verify field conditions and carefully compare such field measurements and conditions and other information known to the Contractor with the Contract Documents before commencing activities. Report errors, inconsistencies or omissions discovered to the Owner at once.

Be responsible for inspection of portions of Work, if any, already performed under this Contract to determine that such portions are in a proper condition to receive subsequent Work.

1.4.6 Local Conditions

The Contractor represents that it has carefully examined the Contract Documents and the site(s) where the Work is to be performed and that it has familiarized itself with all local conditions and Laws and Regulations that may affect in any manner the performance of the Work. The Contractor further represents that it has studied all surveys and soils investigation reports about subsurface and latent physical conditions pertaining to the worksite, that it has performed such additional surveys and investigations as deemed necessary to complete the Work, and that it has correlated the results of all such data with the requirements of the Contract Documents. The submittal of a bid shall be conclusive evidence that the Contractor has investigated and is satisfied as to the conditions to be encountered, including locality, uncertainty of weather and all other contingencies, and as to the character, quality, quantities, and scope of the Work.

The Plans for the Work show subsurface conditions or otherwise hidden conditions as they are supposed or believed by the Engineer to exist; but it is not intended or to be inferred that the conditions as shown thereon constitute a representation that such conditions are actually existent. Except as otherwise specifically provided in the Contract Documents, the Owner, the Engineer, and their consultants shall not be liable for any loss sustained by the Contractor as a result of any variance of such conditions as shown on the Plans and the actual conditions revealed during the progress of the Work or otherwise.

1.4.7 Interpretation of Plans

The Contract Documents shall be interpreted as follows:

- a. Discrepancies between Plans and the figures written thereon shall be resolved by taking the figures as correct.
- b. Figured dimensions shall govern over scaled dimensions.
- c. Full scale Plans shall govern over reduced size Plans.
- d. Where a dimension necessary to do the Work can only be obtained by means of a scaled dimension, request a determination from the Owner or Owner's Representative.

1.4.8 Quantities of Work

The preliminary estimate of quantities of Work to be done and materials to be furnished is approximate as shown on the Plans and is given as a basis for comparison of bids only. The Owner does not expressly or by implication agree that the actual amount of Work will correspond with quantities on the Bid.

1.4.9 Reasonably Implied Parts of the Work Shall be Done Although Absent from Specifications

Perform specific tasks not completely described in these Specifications that are necessary or normally required as part of the Work described, or that are necessary or required to make each installation satisfactorily or legally operable, as incidental Work without extra cost to the Owner, as if fully described in these Specifications. Include the expense of such Work in the applicable unit prices for the Work described.

1.4.10 Work Schedule

No Work shall begin until a Work Schedule has been approved by the Owner. File with the Owner a Work Schedule within 7 days after the award of the Contract. This schedule shall outline the various phases of Work and the estimated dates of commencement and completion for each. Said schedule shall be sufficiently detailed to permit ready comparisons with the actual construction as Work progresses. The schedule shall make allowances for delays and shall correlate to dates Contractor is allowed to Work.

***Work only between the hours of 8:30 a.m. to 3:30 p.m., Monday through Friday, excluding holidays. Deviation from these hours is not permitted without the prior consent of the Owner and the City of Torrance, except in emergencies involving immediate hazard to persons or property. Also refer to weekend work hour allowance and the holiday moratorium from the City of Torrance in paragraph: SPECIAL REQUIREMENTS in this Section.**

1.4.11 Notifications

1.4.11.1 Specific Work

Give the Engineer advance notice prior to performance of specific Work items as specified within individual Sections of these Specifications.

1.4.11.2 Start of Construction

Notify, not less than two (2) working days prior to the start of Work, the listed agencies identified in the Construction Drawings, along with all other pertinent agencies necessary for permit/jurisdiction compliance.

*Signs shall be posted in visible locations along the project site perimeter and along local roadways (including, but not limited to, Sepulveda Boulevard, Madrona Avenue, and others). **Signs shall be per City of Torrance requirements and approved traffic control plan instructions.** Coordinate with city; designated handwritten permission has to be obtained prior to initiation of construction.

Contractor shall contact emergency service purveyors for the City of Torrance to provide them with a construction schedule indicating streets that will be affected by construction to preclude unnecessary traffic bottlenecks that would seriously impede emergency response times.

1.4.11.3 Residents

Coordinate with Contracting Officer to provide written notices to locally impacted residences and businesses in advance of starting any work that may affect their access or otherwise interfere with the neighborhood. Written notice shall be, at a minimum, in the form of door hangers attached to each building. Wording for the notices and area of distribution shall be approved by the Contracting Officer. Contractor shall coordinate with the District on all public relations issues.

1.4.12 Pre-Construction Meeting

Attend a pre-construction meeting to discuss the schedule of Work, coordination with other contractors working in the vicinity of the sites, points of contacts for various parties involved, site layout, submittals procedures, and inspection procedures. Have the following people present: a principal of the Contractor, the Contractor's superintendent(s), and the owner or superintendent of all subcontractors. Other items that need to be discussed will be provided to the Contractor prior to the pre-construction meeting.

1.4.13 Site Protection

Throughout the period of construction, keep the sites free and clean of all rubbish and debris. Provide protective barriers and other safety protection necessary to protect the public and workers. Protect all existing fences, walls, buildings, trees, and landscape during the progress of Work. In the event of damage to such property, immediately restore the property to a condition equal to its original condition and to the satisfaction of the Engineer, at the Contractor's sole expense. This provision includes damage to surface and subsurface utilities. After completion of the Work, remove from the sites and Work areas all materials, tools, debris, and solids. At the completion of the construction, clear the sites of all materials and leave the sites in a condition acceptable to the Engineer.

Secure all excavations at the end of each working day to prevent unauthorized access.

1.4.14 Contamination

At all times perform in such a manner as to prevent the introduction of contaminants into the pipelines. Keep tools, equipment, and other elements clean. Clean and disinfect materials and equipment if, in the Engineer's sole opinion, the operation is introducing contaminants into the pipelines.

Construction contractor will prepare a Storm Water Pollution Prevention Plan (SWPPP) to prevent project-related storm water runoff into the waters of the United States. Best management practices would be followed to minimize impacts to waters of the United States. A Notice of Intent will be submitted to the State Water Resources Board (SWRB) prior to the construction of the project. A qualified environmental person would monitor construction activities to ensure environmental commitments are followed during construction. In addition, West Basin Municipal Water District (WMBD) would coordinate with the Department of Transportation. No work during rainy days. No pollutant should be discharged into the storm drains. No contaminated material should be used for construction. No oil-grease discharge on project site or in the waters of the U.S. All applicable BMPs will be included in the Storm Water Pollution Prevention Plan. Construction contractor will obtain NPDES Permit.

During construction, if contaminated soil is found, the Corps would coordinate with the appropriate agencies. Guidelines provided by the resource agencies would be implemented to dispose contaminated materials at appropriate disposal sites. If the soil is not contaminated, it can either go back into the trench as fill or to the regional waste management site. A negligible impact on rainfall runoff is anticipated because the project will be trenched along city streets. No incremental increase in flows to the storm drain systems is expected. Best Management Practices would be utilized to control erosion and runoff from the project construction and would also be included in the SWPPP. Therefore, no contaminants would be discharged into the storm drains. Construction contractor will obtain a permit for oversize work on state right-of-way from Caltrans.

1.4.15 Removal and Salvaging

Remove existing appurtenances as specified herein. Materials salvaged from the sites, as indicated in the plans and specifications, are the property of the Owner. Materials and equipment removed by the Contractor during construction shall become the property of the Contractor and, in such case, the Contractor shall remove such materials and equipment from the sites. Move salvaged equipment not designated by the Owner to become the property of the Contractor to a lay-down area or areas within the sites as determined by the Owner.

Staging and disposal areas shall comply with local jurisdictional requirements. The construction contractor shall inform the Corps of staging and disposal sites prior to about three months of construction and ensure that staging area and disposal sites are in compliance with the environmental regulations.

1.4.16 Disposal of Material

Dispose of all materials generated during construction as specified in the Specifications.

1.4.17 Safety Requirements

In accordance with the most stringent requirements of the Corps Safety Manual EM 385-1-1, OSHA and California OSHA Regulations for Construction, provide and require the use of personal protective and lifesaving equipment for all persons working at the project site.

1.4.18 Laws, Regulations, and Permits

***All work required hereunder shall be done in full compliance with all Laws and Regulations. Obtain all permits required by federal, state, county, or district agencies, pay all required fees, and obtain excavation permit from the City of Torrance.**

Bidders shall possess the appropriate licenses at the time the bid is submitted. Each bidder shall record, on the bid, the number and termination dates of all necessary licenses. A valid state license, sufficient to qualify as the prime contractor, is a prerequisite for award of the Contract. Necessary City licenses may be secured after the bids are opened, but must be obtained prior to execution of the Contract.

1.4.19 Railroad Crossings

Contractor shall become familiar prior to bid with the Burlington Northern Santa Fe Railroad utility crossing requirements. Contractor shall ensure all construction requirements have been satisfied. All costs related to BNSF requirements shall be paid by contractor. Owner shall not be responsible for any direct, indirect, or incidental costs associated with requirements set by BNSF.

***The Contractor shall be responsible for obtaining any license agreement for all work within the Burlington Northern Santa Fe Railroad Right-of-Way, including paying the corresponding fee, complying with the conditions, and maintain a copy of the said license agreement and stamped plans on the job site at all times.**

***Contractor shall be responsible for paying all fees required for work within and adjacent to the Burlington Northern Santa Fe Railroad right-of-way, including railroad employed flagmen required during all related construction activities.**

1.4.20 Examination of the Site

All bidders shall inspect the route of the Work and in submitting a bid are understood to be familiar with all conditions which might affect the conduct of the Work. No allowance will be made for failure of the bidder or the Contractor to estimate correctly the difficulties of executing the Work.

1.4.21 Inspection and Approval

All Work and materials required shall be subject to the inspection and approval of the Engineer, or the Owner's Representative.

Furnish to the Owner full information as to the progress of the Work in its various parts and give the Owner timely notice of the Contractor's readiness for inspection. When practicable, inspection will be made during the manufacture of articles. Furnish, without additional charge, all reasonable facilities and assistance for the safe and convenient inspection and tests required by the Owner.

Final inspection and acceptance of the articles or materials may be made after delivery at the sites of the Work and at the expense of the Owner. In the event that any material at the sites of the Work is rejected on account of failure to pass inspection or test, replace same promptly. Final inspection will be made as promptly as practicable but may not in all cases be made prior to construction or final assembly.

The Owner shall have the right at all times and places to reject articles

and materials furnished hereunder which, in any respect, fail to meet the requirements or the Specifications, regardless of whether the defects in such articles or materials are detected at the point of manufacture or after completion of the Work at the sites. If the observer, through an oversight or otherwise, has accepted material or work which is defective or which is contrary to the Specifications, such material, no matter in what stage or condition of manufacture, delivery, or erection may be rejected by the Owner. Compliance with the Specifications is distinctly a duty of the Contractor and shall not be avoided by act or omission on the part of the Owner's observer.

Remove rejected articles and materials promptly after notification to a satisfactory distance from the vicinity of the accepted articles and materials at the sole expense of the Contractor. Pay for any adjustments, corrections or repairs found necessary after the delivery of articles or materials, including all additional handling and shipping.

1.4.22 Relocate Work Heading

In the event that contaminated soil is encountered, the Owner will retain a contaminated soil remediation consultant/contractor (CSRC). Through additional soils explorations, the CSRC will attempt to identify areas along the project alignment which will require advance soil removal and disposal. The CSRC will excavate, remove and dispose of contaminated materials within the trench zone ahead of the working heading. Contractor shall install and backfill the project pipelines and restore surface improvements throughout the Project alignments.

*In the case where advance remediation of trench soils is performed by the CSRC, coordinate with the CSRC and provide and haul suitable backfill material from other areas of the project excavations to replace the lost volume of material.

*In the case where contaminated soils are discovered by the Contractor in the course of its own excavation work, Contractor shall immediately inform the Engineer and may be asked to "leap" the working heading a distance not to exceed 500-feet, coordinate with the CSRC during its "cleanup" operation, return and install project piping including pipe closures, provide and place suitable backfill material and restore surface improvements.

1.4.23 Cooperation with Others

Other work or construction may be progressing concurrently with the Work hereunder. Coordinate this Work with that of others in the area to facilitate the work and minimize inconvenience.

The Engineer will resolve any conflicts between the Contractor and others.

1.4.24 Conferences

At any time during the progress of the Work, the Contractor shall attend additional conferences including any or all of the subcontractors engaged in the Work, that are called by the Owner.

Failure of the Contractor to attend conferences or meetings may result in issuance of a "stop work notice" by the Owner. Delays resulting from the Contractor's failure to attend conferences or meeting shall be the responsibility of the Contractor. Time extensions and delay claims will

not be granted for any such delays.

1.4.25 Right-of-Way

The Owner will provide the right-of-way to the Project site. It shall be the sole responsibility of the Contractor to acquire any additional right-of-way for the project as shown on the plans. The Contractor will be permitted to occupy only that area that is reasonably needed to complete the Work.

1.4.26 Permits

The Corps has not applied for any other permits or licenses for this Project. The Contractor shall obtain and comply with any additional permits and/or licenses required to do the Work, and at its expense. No additional payment will be made therefor.

The Contractor shall obtain all necessary permits before commencing work.

The Contractor shall comply with all permit requirements, specifically to comply with City and County regulations.

1.4.27 Location of Existing Facilities

Be responsible for determining in advance the location of all existing pipelines to which connections are to be made, crossings, or where parallel pipeline construction may have critical influence on the construction.

Unless otherwise shown on the plans, indicated in the specifications, or contained in any permits, the Contractor shall replace in kind all service laterals, pavement, sidewalks, curbs, berms, traffic sensors, traffic loops, drainage ditches, and all other existing facilities, above or below ground which are removed or damaged during construction.

1.4.28 Joining to Existing Pipelines

Verify in the field the location, size and depth of the existing pipelines to be connected to. Contact the Owner to arrange for temporary draining and shutdown of these existing mains. Provide the Owner with three (3) working days notice prior to required shutdown. Make connections to existing pipelines after the new pipelines have been completed, from end to end, including successful hydrostatic testing and disinfection, to the point that the new pipelines are ready to receive flow.

1.4.29 Minimum Cover Over Pipelines

The intent of the Plans is to provide a minimum cover of 48 inches over the pipelines. Pipe profile elevations have been established to account for typical pavement sections and to provide 48 inches of cover at finished grade elevations. If varying field conditions are encountered, and 48 inches of cover does not exist, install and maintain steel plates over the backfilled and compacted trench until the Work is complete or until the roadway contractor begins placing the roadway base materials. The steel plates must be at least 1/2-inch in thickness and at least twice the width of the trench.

1.4.30 Rock Encountered During Construction

It is possible that the Contractor may encounter large rock boulders during

excavation. If the rock encountered is larger in any dimension than the trench width being cut, and cannot be reasonably handled by the equipment the Contractor has on-site, then immediately notify the Owner's Representative. The Owner at its sole discretion may choose to have the Contractor remove the rock on a time and materials basis or may choose to have a different contractor perform the removal.

1.4.31 Archaeological or Historical Resources

Attention is called to State and Federal laws pertaining to the protection and preservation of sites or objects of archaeological, paleontological or historic interest. When features of archaeological, paleontological or historic interest are encountered or unearthed in material pits, the roadway prism or other excavation, stop Work in the immediate vicinity of such feature, protect it from damage or disturbance and report promptly to the Owner's Representative and to the State and Local officials having jurisdiction.

Corps Archeology Staff would, in the case of discovery of human remains, follow State health and Safety Code Section 7050.5, which states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant tot Public Resources Code Section 5097.98. The County Coroner will be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American heritage Commission (NAHC), which will determine and notify the Most Likely descendant (MLD). The MLD shall complete the inspection within 24 hours of notification by the NAHC. An agreement shall be made to determine the treatment of the remains, authorization for scientific studies, and final disposition of the remains. Under supervision of the Corps Archeology Staff, human remains will be treated with respect and as specified in the agreement.

The Corps shall notify the SHPO and government Indian tribe that might attach religious and cultural significance to the site and the ACHD within 48 hours. Procedures in 30 CFR 800 13(2-3) shall be followed. Corps of Engineers Archeology Staff would be notified of discovery. Corps Archeology Staff shall determine if discovered cultural material is an isolated find, or consists of a deposit of some extent. If needed, hand excavations shall be conducted to determine if the deposit is of sufficient content and integrity to e eligible for listing on the National Register of Historic Places. The Corps shall determine eligibility and effect in consultation with the State historic Preservation Officer pursuant to 36 CFR 800.

Work shall not be resumed in the immediate area until the Contractor is advised by the authorities having jurisdiction that study and/or removal of the feature or features has been completed. In no instance shall any relic or antiquity be removed or excavated from its resting place by the Contractor's forces, except and unless so ordered by an authority having jurisdiction. The Contractor will be allowed an appropriate time extension for construction time lost.

1.4.32 Authorization to Proceed with Changes in the Work

The Owner shall have authority to make minor changes in the Work not involving extra cost and not inconsistent with the purposes of the Work. If the Contractor claims that any such request for changes in Work involves extra costs or time, it shall give the Owner notice thereof within a reasonable time, not to exceed 10 days, after receipt of a request from the

Owner to make changes in the Work, and in any event before proceeding to execute the Work. No claim for extra costs shall be valid unless made in writing by the Contractor and approved in writing by the Owner.

1.4.33 Asbestos Cement Pipe

The Contractor may encounter existing asbestos materials (i.e.: asbestos cement pipes) during the Work. The Contractor is warned that asbestos is a known human carcinogen when inhaled and poses serious health risks. Asbestos fibers are easily inhaled and can result in chronic respiratory illness, cancer and other severe health effects.

Removal of existing asbestos material shall be performed by a contractor or subcontractor registered by CAL/OSHA and certified by the State Contractors Licensing Board for asbestos removal. Copies of the certification shall be submitted to the Owner prior to the commencement of any asbestos removal activities. Comply with all State and Federal laws regarding handling and removal of asbestos materials. Properly identify, remove, and dispose of all asbestos materials.

In the specific instance of making connections to the existing asbestos cement pipe, disconnect, at the nearest joints, the length of asbestos cement pipe to be connected to the new pipe. This length of existing asbestos cement pipe will be replaced by the new pipe making the tie-in.

Cut asbestos cement pipe only when absolutely necessary and perform all cutting and handling of asbestos cement pipe in strict conformance with all applicable CAL/OSHA, E.P.A. and governing health agency requirements. Provide sufficient supervision and monitoring to assure conformance.

1.4.34 Existing Concrete Pavement

The Owner does not guarantee that the information shown on the Plans regarding the location of existing concrete pavement, if applicable, is accurate or complete. The Contractor is responsible to ascertain the extent of concrete along the pipeline and its thickness and depth. No additional payment will be allowed for work in connection with cutting, excavating, and disposing of this concrete as required to perform the Work.

1.4.35 Maintaining Water Service During Construction

*Tie in to the existing 30-inch diameter recycled water line in 190th Street shall be made by hot tap. The existing 30-inch diameter recycled water may not be taken out of service. Tie-in shall be coordinated with the **West Basin Municipal Water District**.

1.4.36 Construction Staking

1.4.36.1 Lines and Grades

The Work shall be executed in accordance with the lines and grades indicated on the Plans. Distances and measurement, except elevations and structural dimensions, are given and made on horizontal planes. Deviation from the lines, grades, or elevations shown on the Plans, as may be required by the contingencies of construction, will be determined in all cases by the Contracting Officer and authorized in writing.

1.4.36.2 Construction Staking

The Contractor shall provide sufficient construction staking to prosecute the work of this contract. The Contractor shall be responsible for preserving all construction stakes, reference points, property corners and all other survey points and, in case of their loss or destruction, he shall be liable for and charged with the cost of their replacement and of any expense resulting from their loss or disturbance. The Contractor at his cost shall do any restaking and resurvey work required due to the Contractor's negligence. Such surveys shall constitute instruction from the Contracting Officer, and the Contractor shall not proceed with work until construction stakes have been set.

The accuracy of all survey staking not provided by the Owner is the responsibility of the Contractor. However, the Owner has the discretionary right to check the Contractor's stakes, alignments, and grades at any time.

Where such discretion is to be exercised by the Owner, the Owner will notify the Contractor of the Owner's intention, stating the time at which the checking will commence. Any part of the Work in progress, the results of which are predicted directly upon the Contractor's stakes, alignments, or grades to be checked, shall be held in abeyance until the Owner has notified the Contractor that the checking has been completed.

1.4.36.3 Survey Monuments

Survey monuments and property marks shall not be moved or otherwise disturbed by the Contractor until an authorized agent of the agency having jurisdiction over the monuments or property marks setting has witnessed or otherwise referenced their location, and only then in accordance with the requirements of the agency having jurisdiction.

Prior to start of construction, all survey monuments in the project area shall be located and tied out by the Contractor. All centerline monuments or ties lost or destroyed by this work shall be replaced and new tie sheets provided. Method of establishment shall be stated on the tie sheet. Tie sheets prepared and stamped by a California licensed civil engineer or surveyor shall be delivered to the City inspector for approval prior to construction.

1.4.37 Dust Control

Perform continuous dust control operations to prevent construction operations from producing dust in amounts harmful to persons or causing a nuisance to persons living nearby or occupying buildings in the vicinity of the work. Use water or dust preventative to control dust. Sweep or wash streets affected by the Work, as required by the Owner. Supplying and application of water shall be at the sole expense of the Contractor.

1.4.38 Fire Danger

Minimize fire danger in the vicinity of and adjacent to the site. Provide labor and equipment to protect the surrounding private property from fire damage resulting from the Work. All costs arising from fire or the prevention of fire shall be at the sole expense of the Contractor.

1.4.39 Access Roads and Parking Areas

Make arrangements for parking of employee's vehicles.

1.4.40 Storage Yards And Staging Areas

Acquire at Contractor's own expense site of adequate size and access to facilitate Contractor's own operations, storing and staging of materials, equipment, and personnel. Meet conditions and requirements of Owner. Expenses related to storage yards and staging areas shall be included in the various items bid, and no additional payment will be made therefor.

1.4.41 Temporary Water

Obtain water and pay all costs associated with obtaining a temporary water supply to conduct the Work. Include the costs of all water requirements in the Contractor's bid in the appropriate bid item to which it is appurtenant.

Install temporary pipe, valves, and other appurtenances necessary to convey water to the sites from any temporary water service connection obtained by the Contractor.

1.4.42 Temporary Electric Power

(See paragraph: Part A GENERAL REQUIREMENTS)

1.4.43 Sanitary Facilities

Provide and maintain sanitary facilities for its employees and lower-tier Subcontractors' employees that will comply with the regulations of the local and state departments of health and safety. The cost of portable toilets and other appurtenances shall be included in Contractor's bid.

1.4.44 Telephone

Establish telephone service at the site(s) prior to conducting Work and until all construction Work is complete. The purpose of this service is to allow the Owner and Engineer to communicate with the Contractor's representatives or the Engineer's on-site personnel. A temporary telephone service or mobile telephone service are acceptable alternatives. The telephone shall be audible/visual to the field crew at all times and the number shall be provided to the Owner and Engineer. Owner and Engineer's representatives shall have unrestricted access to the telephone. All telephone costs, other than charges for toll calls originated by the Owner or Engineer, shall be included as a part of the Contractor's mobilization bid. Toll calls originated by Owner or Engineer shall be billed to the Owner by the Contractor at the rates charged to it by the telephone company.

1.4.45 Covering of Pipe Ends

Block ends of any stockpiled pipe to prevent entry of humans and animals. Pipe shall also be covered to maintain proper moisture in lining prior to installation.

1.4.46 Vibratory Equipment

Do not use equipment capable of causing ground shaking.

1.4.47 Noise Ordinance

Do not violate local noise ordinances. Be responsible for determining any noise requirements and adhering to them at no additional cost to the Owner.

All internal combustion engine equipment shall be equipped with mufflers and other noise attenuation devices, in accordance with manufacturer's

recommendations. All equipment used during construction will be muffled and maintained in good operating condition. Unless otherwise permitted by local jurisdiction, any construction activity using pneumatic or heavy impact noise barrier or enclosure composed of wood or other materials with a similar Sound Transmission Class (STC) rating. If a barrier is used, it should be a minimum of eight feet. The contractor shall be responsible for paying for any penalty due to violation of any laws and regulation implemented by the cities or counties for noise ordinance. The Corps environmental staff would monitor construction and if compliance is violated, then construction may be halted until the issue is resolved.

1.4.48 Staging and Disposal

Staging and disposal areas shall comply with local jurisdictional requirements.

1.4.49 Safety Specialist, Superintendent Emergency Phone

The Contractor's safety specialist and the Project Superintendent shall have immediate access to a cellular telephone for emergency purposes (i.e., calls to 911 for primary response by police and fire departments).

1.4.50 Night Work

There shall be no night work.

1.4.51 Use of Explosives

Do not use explosives without the written permission of the Engineer. No such permission is given at this time.

1.4.52 Cleaning During Construction & Final Cleaning - General

At all times maintain areas covered by the Contract Documents and adjacent properties and public access roads free from accumulations of waste, debris, and rubbish caused by Contractor's operations.

The Contractor shall maintain the work area in a neat, safe clean and sanitary condition at all times, and to the satisfaction of USACE and the City of Torrance. Streets shall be kept clean of debris, with dust and other nuisances being controlled at all times. The Contractor shall also be responsible for any clean up on adjacent streets affected by the construction. Contractor shall clean streets with sweeper prior to the end of each work day as a minimum.

Conduct cleaning and disposal operations to comply with Laws and Regulations. Do not burn or bury rubbish and waste materials on Project site. Do not dispose of volatile wastes, such as mineral spirits, oil, or paint thinner, in storm or sanitary drains. Do not dispose of wastes into streams or waterways.

Use only cleaning materials recommended by manufacturer of surface to be cleaned.

1.4.53 Cleaning During Construction

During execution of work, clean site, adjacent properties, and public access roads and dispose of waste materials, debris, and rubbish to assure that buildings, grounds, and public properties are maintained free from

accumulations of waste materials and rubbish.

Wet down dry materials and rubbish to lay dust and prevent blowing dust.

Provide containers for collection and disposal of waste materials, debris, and rubbish.

Cover or wet loads of excavated material leaving the site or of material being imported to prevent blowing dust. Clean the public access roads to the site of any material falling from the haul trucks.

1.4.54 Final Cleaning

At the completion of Work and immediately prior to final inspection, clean the entire Project as follows.

- a. Clean, sweep, wash, and polish all work and all equipment including finishes.
- b. Remove grease, dust, dirt, stains, labels, fingerprints, and other foreign materials from sight-exposed interior and exterior finished surfaces; polish surfaces so designated.
- c. Repair, patch, and touch up marred surfaces to specified finish to match adjacent surfaces.
- d. Broom clean paved surfaces; rake clean other surfaces of grounds.
- e. Remove from the Owner's property all temporary structures and all materials, equipment, and appurtenances not required as a part of, or appurtenant to, the completed Work.

1.4.55 Guarantee

Guarantee the materials furnished by Contractor and the workmanship used in the construction of all Work called for under these Specifications to be as herein specified or agreed upon, free from injurious defects, and in all respects satisfactory for the required service, for a period of one (1) year after acceptance of completed work. Damage or leaks due to "acts of God" or from sabotage or vandalism are specifically excepted from this guarantee.

When defective materials or workmanship is discovered in a pipeline, backfill, or pavement surfacing which requires repairs to be made under this guarantee, do all such work at Contractor's sole expense within five (5) working days after notice of such leaks, breaks, or settlement has been given by Owner. Should the Contractor fail to repair such leaks or damage within five (5) working days thereafter, or in an emergency demanding immediate attention, Owner may make the necessary repairs and charge the Contractor with the actual cost of all labor, equipment, and material required.

The required surety bonds shall extend for a period of one year beyond the filing of the Notice of Completion to cover this guarantee.

1.4.56 Correction of Defects

Without limitation of any other rights or remedies of the Owner, if any defect in the Work in violation of any warranties herein arises within one

(1) year after the date of the Certificate of Completion, the Contractor and its sureties shall, upon receipt of notice of such defect and demand to correct any such defective Work, at no cost to the Owner, promptly furnish and provide all design and engineering, labor, equipment, materials and other services at the site necessary to correct such defect and cause the Work to comply fully with the warranties. Correct all such defects, whether these defects are discovered before or after the date of the Certificate of Completion. Pay or bear all costs of correcting such rejected and defective Work, including access to the Work and removal and replacement of non-defective Work which is needed in order to correct defective Work, and also including compensation for additional services made necessary thereby. This Section shall survive termination of the Contract.

1.4.57 Contractor's Failure to Correct

In the event the Contractor has been notified of any defect in the Work in violation of the Contractor's warranties, and in the event the Contractor fails to promptly and adequately correct such defect, the Owner shall have the right to correct or to have such defects corrected for the Contractor, and the Contractor shall promptly pay the Owner's costs in correcting such defect.

1.4.58 Record Drawings

(Refer to Section: CLOSEOUT SUBMITTALS, paragraph: As-Built Drawings.

1.5 SPECIAL REQUIREMENTS

1.5.1 Description

This section contains special requirements issued by the City of Torrance for construction of the proposed recycled water lateral.

1.5.2 Conditions

(1) Permit and Inspection fees will be collected when the Construction & Excavation (C & E) permit is issued.

(2) Contractor must apply for a Construction & Excavation Permit to be issued no less than one (1) month prior to construction. All names and addresses, telephone numbers, contractor's license number, Worker's Compensation Identification Number, City of Torrance business license number, and USA Dig Alert number are required for permit to be issued.

(3) The Contractor shall provide insurance certificate showing proper coverage according to the City of Torrance insurance requirements before permit is issued. Proof of insurance shall include "The City of Torrance, the City Council and each member thereof, members of boards and commissions, every officer, agent, employee and volunteer" as additionally insured.

(4) Contractor shall coordinate construction schedule with WBMWD for required community meeting at least one (1) month prior to start of construction.

(5) Contractor shall coordinate construction schedule with WBMWD for a construction notification letter for distribution to all residences adjacent to the work zone at least three (3) weeks prior to start of

construction. The letter shall be submitted to the City of Torrance for approval.

(6) The Contractor shall be aware that the City of Torrance has a holiday construction moratorium which begins one week before Thanksgiving Day and ends one week after the New Year's Day holiday. During this period, the Contractor shall not perform construction or work which may impact the traffic on Crenshaw Boulevard, Maple Avenue, Madrona Avenue or Plaza Del Amo.

*(7) Contractor shall coordinate with **West Basin Municipal Water District, WBMWD** for submission of a detailed construction schedule. The construction schedule should be available at least (2) weeks prior to commencing work, shall be updated every two (2) weeks, and formally submitted to the Community Development Department Public Works Inspector.

(8) WBMWD and Contractor must attend a pre-job meeting with the City of Torrance at least three (3) weeks prior to starting construction.

(9) Prior to start of construction, all survey monuments in the project area shall be located and recorded by Contractor. All centerline monuments or ties removed or destroyed shall be replaced and new tie sheets provided to the City. The method of establishing the new tie shall be stated on the tie sheet. The work shall be performed by a California Licensed Surveyor.

(10) No equipment or materials shall be stored in the street during non-working hours unless approved by the City Engineer.

(11) When parking restrictions are to be imposed, "No parking" signs shall be posted 48 hours prior to commencing construction. The contractor shall notify the Torrance Police Department within 48 hours after the "No parking" signs have been posted. Parking shall be allowed during non-working hours.

(12) All trench backfill and pavement repairs shall be per the City of Torrance Standard T 116.

(13) If remaining AC pavement between edge of trench and existing gutter, curb and cross gutter is less than three (3) feet in width, then AC shall be removed and-replaced with new AC pavement.

(14) At the end of each day, any trench shall be covered by non-skid plates or paved with temporary or permanent pavement flush with adjacent pavement surfaces. When non-skid steel plates are used they shall be welded, secured in place, ramped with AC, and not used for more than 48 consecutive hours on the same segment of trench. "Plates Ahead" sign shall be properly installed when plates are in use.

(15) Contractor is responsible for any and all damages resulting from the construction.

(16) The contractor shall remove all graffiti from equipment, materials, and signs or remove and/or replace the said equipment and signs within 24 hours of the appearance of the graffiti. In addition, the City of Torrance also considers the USA markings to be constructed graffiti. All USA markings shall be removed prior to slurry sealing.

(17) The contractor shall remove all USA markings within 72 hours of completion of work.

(18) The contractor shall provide full access to adjacent properties at all times during construction.

(19) WBMWD shall have an inspector on the job at all times while the contractor is working.

(20) The contractor shall comply with Best Management Practices, City of Torrance Standard T303-0.

(21) PCC pavement shall be replaced by high early strength concrete.

(22) Lane strips, lines and bus stops that are removed or damaged during construction shall be replaced each day with flaps or painting prior to placing traffic back onto segment of traffic.

(23) Torrance Transit and MTA shall be notified 48 hours prior to start of construction near any bus stop.

(24) At least two (2) electronic flashing message boards shall be installed at least two (2) weeks prior to start of construction and during construction to inform motorists of traffic conditions.

(25) The contractor shall notify the Traffic and Lighting Division in Torrance Public Works Department at least two (2) working days prior to sawcutting or removing paving on or adjacent to traffic loops or deflectors.

(26) The contractor shall be billed for overtime inspection services for work after 4:30 PM, weekend or night work.

(27) Work on Crenshaw Boulevard, Maple Ave, Madrona Avenue or Plaza Del Amo is restricted to weekdays between 8:30 AM to 3:30 PM except for work on intersection which shall be on weekends unless approved by the City of Engineer.

(28) The contractor shall limit the area of excavation and closed traffic lanes to only that necessary to achieve the work for that day. Excessive trench, closed roadway or lanes will not be permitted.

(29) The contractor shall conduct a weekly meeting to discuss the progress of the work.

(30) The contractor shall not close any lanes on Crenshaw Boulevard on Tuesday and Saturdays, next to Wilson Park, to avoid Farmer's Market days.

(31) The contractor shall use reflectorized drums instead of delineators for stationary traffic control that will be in place for two (2) days or more.

(32) The contractor shall notify Torrance Parks and Recreation Department at least two (2) working days prior to start of construction near irrigation systems.

PART 2 PRODUCTS

2.1 Availability of Materials

Ensure the availability of all material prior to the start of Work.
Unavailability of material will not be sufficient reason to grant the

Contractor an extension of time.

PART 3 EXECUTION

3.1 Connection to Existing Recycled and Potable Water Pipeline

3.1.1 Notification

Submit a work notification to the Owner a minimum of three (3) working days before the time of any proposed shutdown of existing mains or services.

3.1.2 Notice to Proceed

Make connections only in the presence of the Owner's Representative and do not make any connection until the Owner's Representative has given notice to proceed.

3.1.3 Material

Furnish all pipe and materials including as may be required: labor and equipment necessary to make the connections, all required excavation, backfill, pavement replacement, lights, and barricades, water truck, highline hose, and fittings for making the connections. In addition, assist the Owner in alleviating any hardship incurred during the shutdown for connections.

3.1.4 Dewatering

Dewater existing mains, as required, in the presence of the Owner's Representative.

3.1.5 Inadequate Progress

If progress is inadequate during the connection operations to complete the connection in the time specified, the Owner's Representative shall order necessary corrective measures. All costs for corrective measures shall be paid by the Contractor.

3.1.6 Connections

Make connections with as little change as possible in the grade of new main. If the grade of the existing pipe is below that of the new pipeline, deepen a sufficient length of the new line so as to prevent the creation of any high spot or abrupt changes in grade of the new line. Where the grade of the existing pipe is above that of the new pipeline, lay the new line at specified depth, except for the first joint adjacent to the connection, which shall be deflected as necessary to meet the grade of the existing pipe. If sufficient change in direction cannot be obtained by the limited deflection of the first joint, install a fitting of the proper angle. Where the connection creates a high or low spot in the line, install a standard air release or blowoff assembly as directed by the Owner's Representative.

3.1.7 Testing

Do not connect the new pipeline to an existing facility until the new pipeline has successfully passed all pressure tests.

3.2 Removal From Service of Existing Mains And Appurtenances

3.2.1 General

Remove existing mains and appurtenances from service at the locations shown on the plans or as directed by the Owner's Representative.

3.2.2 Method of Abandonment

Existing pipe and appurtenances may be filled with grout or driller's mud, or removed from the ground, in which case all backfill and repair of surface shall be in accordance with specifications.

3.2.3 Storage of Removed Material

Removed pipe and appurtenances may be temporarily stockpiled on the job in a location that will not disrupt traffic or be a safety hazard, unless directed by the Contracting Officer to be delivered to the Owner's yard.

3.2.4 Maintenance of Service

Before excavating for laying mains that are to replace existing pipes and/or services, make proper provisions for the maintenance and continuation of service as directed by the Owner's Representative.

3.3 Safety

Be solely and completely responsible for conditions on the Project site, including safety of all persons and property during performance of the Work, and fully comply with all Laws and Regulations relating to safety of the public and workers.

The right of the Engineer or the Owner's Representative to conduct construction review or observation of the Contractor's performance will not include review or observation of the adequacy of the Contractor's safety measures in, on, or near the site.

In the event the Contractor fails to take corrective action to ensure compliance with said safety regulations and/or removal of rubbish or debris resulting from its Work, the Owner will have the right, but not the duty, to undertake these measures and charge the cost of same to the Contractor without further notice to the Contractor.

Notify the Owner of all Work-related accidents which may occur to persons or property at or near the Project site, and provide the Owner with a copy of all accident reports. Sign all accident reports and submit them to the Owner within twenty-four (24) hours after the accident's occurrence.

All construction tools, equipment, temporary facilities, and other items used in accomplishing the Work, whether purchased, rented, or otherwise provided by the Contractor or provided by others, shall be in a safe, sound, and good condition. All such items must be capable of performing the functions for which they are intended and maintained in conformity with applicable Laws and Regulations.

Guard all machinery and equipment and other physical hazards in accordance with the safety provisions of the Manual of Accident Prevention in Construction of the Associated General Contractors of America unless such provisions are incompatible with Laws and Regulations, in which case such Laws and Regulations shall govern.

3.4 Excavation Plan for Worker Protection Required by Labor Code Section 6705

*Submit to the Owner for acceptance, in advance of excavation, a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of any trench or trenches **5 feet or more in depth. An Excavation Plan for shoring design shall also be submitted for trenches shallower than 5 feet when there is physical restrictions on the lateral land for trench layback along the alignment.** A registered civil or structural engineer shall prepare the plan. As a part of the plan, include a note stating that the registered civil or structural engineer certifies that the plan complies with the CAL-OSHA Construction Safety Orders, or that the registered civil or structural engineer certifies that the plan is not less effective than the shoring, bracing, sloping, or other provisions of the Safety Orders.

*The Owner or its consultants may have made investigations of the subsurface conditions in areas where the Work is to be performed. If so, these investigations are identified in **Appendix 1** of the Specifications and the records of such investigations are available for inspection at the office of the Owner. The detailed plan showing the design of shoring, etc. which the Contractor is required to submit to the Owner for acceptance in advance of excavation will not be accepted by the Owner if the plan is based on subsurface conditions which are more favorable than those revealed by the investigations made by the Owner or its consultants; nor will the plan be accepted if it is based on soil-related design criteria which are less restrictive than the criteria set forth in the report on the aforesaid investigations of subsurface conditions.

The detailed plan showing the design of shoring, etc. shall include surcharge loads for nearby embankments and structures, for spoil banks, and for construction equipment and other construction loadings. The plan shall indicate for all trench conditions the minimum horizontal distances from the side of the trench at its top to the near side of the surcharge loads.

Nothing contained herein shall be construed as relieving the Contractor of the full responsibility for providing shoring, bracing, sloping, or other provisions which are adequate for worker protection.

3.5 Assignment and Experience of Supervisors

Assign a responsible supervisor and an alternate who shall be identified at the beginning of the Project. The Contractor's responsible supervisor shall remain in charge of the Contractor's duties through completion of the Work.

Provide in writing evidence of the responsible supervisor's experience prior to beginning the Work. The supervisor and alternate shall have a minimum of five (5) years' prior experience in direct construction supervision of the type of project described herein.

If the Contractor's responsible supervisor should be unable to continue with the Work, then the Contractor's alternate responsible supervisor will become the primary responsible supervisor. Any other changes in the responsible supervisor must be approved by the Owner in advance. The Owner will have the right to reject proposed changes in responsible supervisor.

The Contractor's responsible supervisor shall be the Contractor's authorized representative with authority to represent Contractor with complete authority to act on behalf of, and to bind, Contractor in all matters pertaining to the Work and the Contract Documents. The responsible supervisor shall be available to consult with the Owner and its authorized representatives at all times during the course of the Work.

Maintain workable and harmonious relations with its employees and between the Contractor's employees and the employees of Subcontractors, Sub-subcontractors, vendors and material suppliers and the employees of the Owner, and its consultants. Whenever the Contractor has knowledge that any actual or potential labor dispute is delaying or threatens to delay the timely performance of the Work, immediately give notice thereof to the Owner, including all relevant information regarding such dispute.

Enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. Do not permit employment of unfit persons or persons not skilled in tasks assigned to them.

3.6 Exposure of Utilities in Advance of Work

*All locations shown on the plan for utility lines and services have been taken from available records and their completeness or correctness are in no way guaranteed. The Contractor shall be responsible for verifying the actual location and elevations in the field of all utilities and all point of connections. **The Contractor shall pothole utilities not already potholed during design prior to submitting and approval of pipe fabrication drawings (line lays).** In addition, the Contractor shall expose all utilities and services, including those previously potholed, at least 300 linear feet in advance of the actual pipe excavation operations.

Determine the true location and depth of all utilities and service connections. Determine the type of material and condition of any utility which may be affected by or affect the Work.

The Contract Drawings show the general location of underground pipelines and utilities. The location is based on the best information available to the Owner. The Owner does not guarantee the location and it shall be the Contractor's responsibility to find the exact location.

Expose all utilities and services prior to any Work. If the utilities and service connections differ from those shown on the Plans, notify the Owner immediately in writing. Within one week, the Owner may make changes with alignment and grade of Work to obviate the necessity to remove, relocate, protect or temporarily maintain such utility facilities or to reduce the costs of the Work involved in removing, relocating, protecting or temporarily maintaining such utility facilities. All costs of potholing and exposing shall be borne solely by the Contractor.

No payment will be made to the Contractor for the Contractor's work in connection with aboveground or underground utilities, their relocation or negotiation for relocation. Any cost shall be included in other items to which the relocation may pertain.

3.7 Advanced Notification

Determine and notify those agencies requiring advance notification for inspection or other purposes before beginning construction in any area of concern to said agency. Give a minimum of 48 hours advance notice to

various agencies before beginning construction in the area unless specified advance times are stated in the Contract Documents.

Comply with Section 4216 of the California Government Code and notify Underground Service Alert (USA), telephone number 1-800-227-2600 not less than 48 hours before commencing excavation, drilling, potholing or soil sampling.

3.8 Reporting

Prepare monthly written narrative work status reports of the status of the Work for submission to the Engineer. Written status reports shall include:

- a. The status of major components (Percent Complete, amount of time ahead or behind schedule) and an explanation of how the Work will be brought back on schedule if delays have occurred.
- b. The progress made on critical activities indicated on the schedule.
- c. Explanations for any lack of Work on activities planned to be performed during the last month.
- d. Explanations for any schedule changes, including changes to the logic or to activity duration.
- e. A list of the critical activities scheduled to be performed over the next month.
- f. Any delays encountered during the reporting period.
- g. An assessment of inclement weather delays and impacts to the progress of the Work.
- h. Any other information pertinent to the status of the Project may be included. Additional status information requested by the Engineer shall be included.

3.9 Traffic Regulation Standard Specifications and References

Wherever reference is made to the State Specifications and Plans, such reference shall mean the State of California, Department of Transportation (Caltrans) Standard Specifications and Plans, 2001 edition. Traffic control devices and signing used for handling traffic and public convenience shall conform to the 2001 edition of the "Work Area Traffic Control Handbook" (WATCH), published by BNI Books, Division of Building News, Incorporated, 3055 Overland Avenue, Los Angeles, California 90034.

3.10 Traffic Control Submittals

The traffic control concept shown on the Plans is for bidding purposes and it is intended to serve as a guideline only. It is not mandatory. The Contractor may adopt this traffic control plan or submit an alternate traffic control plan, prepared, signed, and sealed by a California licensed civil or traffic engineer to the jurisdictional agency for the Project area for approval not less than five working days prior to the start of operations involving or requiring traffic control. No Work involving or requiring traffic control shall begin until a traffic control plan is approved by the appropriate agencies, including the Corps of Engineers and the City of Torrance.

3.11 Traffic Control

A traffic control plan is provided in the Drawings for use by the Contractor to provide project traffic control. The Contractor shall:

- a. Control traffic at those locations indicated and in conformance with the approved traffic control plans and specifications. All approved City street closures shall be done in conformance with the City of Torrance Std. No. T603-1.
- b. Furnish, install, construct, maintain, and remove detours, road closures, lights, temporary signals, signs, striping, markings, barricades, fences, K-rail, flares, flagmen, drainage facilities, paving, and such other items and services as are necessary to adequately safeguard the public from hazard and inconvenience. All such work shall comply with the approved Traffic Control Plan Laws and Regulations of authorities with jurisdiction over the public roads in which the construction takes place and over which detoured traffic is routed by the Contractor.
- c. Maintain and keep all temporary traffic control devices in good repair and working order until no longer required, at the Contractor's sole expense. Also pay the cost of replacing such devices that are lost or damaged, to such an extent as to require replacement, regardless of the cause of such loss or damage.
- d. Prior to the start of construction operations, notify the police and fire department, giving the expected starting date and completion date. Notifications on job progress to the emergency service agencies shall be in accordance with procedures and channels to be established at the pre-construction meeting.
- e. Provide reflectorized cones, delineators, or barricades used in the diversion of traffic with flashers, arrow boards, or other approved illumination if in place during hours of darkness. All signs shall be illuminated or reflectorized unless otherwise approved by the Owner and Caltrans.
- f. Provide a minimum of 48-hours prior notice to the appropriate Agency for any Work which may affect signal loops, equipment, or devices. All traffic signs shall be removed or relocated by the City. The Contractor shall notify the street department at (310) 781-6900. In the event that any underground utilities, traffic devices, pipes, or conduits are damaged and require emergency repair by the appropriate Agency, all costs incurred by the appropriate Agency in making such repairs, plus 25 percent for administration costs, shall be paid by the Contractor.

Traffic signal conduits are shown on the plans per available records and visual inspection. Then Contractor shall field verify location of all traffic signal loops and conduits and protect in place or replace per City of Torrance requirements.

- g. Post temporary "No Parking - Tow Away" signs 48 hours prior to work in areas where parking is normally permitted. The police department shall be notified 48 hours prior to the posting of any temporary parking restrictions in the City.

- h. Maintain a 24-hour emergency service to remove, install, relocate, and maintain warning devices, traffic control, or pavement markings and furnish to the authority having jurisdiction the names and telephone number of the person(s) responsible for this emergency service. The emergency response service shall be through cellular phones in order to minimize response time to a construction related emergency. In the event these persons do not promptly respond or the authority having jurisdiction deems it necessary to call out other forces to accomplish emergency service, the Contractor shall be responsible for the cost of such emergency service.
- i. During peak hours, the construction-related traffic would be limited on major roads to minimize impacts o rush-hour traffic.
- *j. Traffic control plans will consider the ability fo alternative routes to carry additional traffic and identify the least disruptive hours of construction site truck access routes and the type and location for warning signs, lights, and other traffic control devices. Consideration will be given to maintaining access to commercial parking lots, private driveways adn sidewalks, to the greatest extent feasible. Encroachment permits for all work within public rights-of way will be obtained from each involved agency prior to commencement of any construction. **The Contractor will comply with all traffic** control requirements as identified by these agencies. Emergency service purveyors will be contacted and consulted to preclude the creation of unnecessary traffic bottlenecks that would seriously impede response times. Additionally, measures to provide an adequate level fo access to private properties will be maintained to allow delivery fo emergency services.

In the event the Engineer finds the Work site to be improperly barricaded or delineated and the Contractor is either unavailable or unresponsive to requests for improvement, Owner will furnish and set-up barricades and delineators as required. Owner shall charge Five Hundred Dollars (\$500) to the Contractor for each setup event, plus Five Dollars (\$5) "use fee" for each barricade or delineator for each day's or partial day's use until such barricades or delineators are returned in good condition by Contractor to the Owner Operations Service Center.

After devices have been installed, at Contractor's own expense, maintain and keep them in good repair and working order until no longer required. Also pay the cost of replacing such devices that are lost or damaged, regardless of the cause of such loss or damage.

3.12 Vehicular Traffic Control

3.12.1 Guidelines

Comply with the general requirements of the referenced Standard Specifications, the "WATCH," the approved Traffic Control Plan, the City of Torrance "Construction Traffic Control Procedures on City Streets," latest edition, the Plans and the following special requirements, unless otherwise approved or revised by Owner.

- a. Where traffic is directed around or adjacent to the site, provide, install, maintain and remove delineators, barricades, lights, signs, and other devices required for the control of traffic. Owner reserves the right to direct the Contractor to relocate traffic control devices.

- b. Cover all existing signs not in conformance with the detour plans for the duration of the detour. Relocate all existing stop signs as required to provide visibility from all relocated traffic lanes. Remove all existing striping in conflict with detour striping by wet sandblasting. Remove all existing raised pavement markers not in conformance with the detour striping flush with the pavement. Temporary striping and pavement markings shall be paint.
- c. Accomplish construction in phases by detouring traffic from its normal patterns along the route as approved to form the site. Restore traffic to normal patterns in each phase before proceeding to the next phase.
- d. Use temporary concrete barriers (K-rail) wherever shown on the plans or where a traffic line is within five feet of an excavation more than 18 inches deep. Remove K-Rail used on the Project at the end of each day in areas which require that all lanes of traffic be open at the end of each day.
- e. Mark traffic lane transitions from permanent lanes to construction zone patterns in accordance with the requirements for the normal posted speed limit and as shown on the plans.

3.12.2 Detours

As shown on the plans certain local streets and alleys intersecting the pipeline route may be closed during Work within the intersections. Post detour signs directing motorists to alternative routes during intersection closures.

Keep all side street approach lanes to the intersection open except when Work is actually taking place within the intersection. Close affected lanes only as shown on the plans and as approved by the Owner.

3.12.3 Equipment and Material Storage

At the end of the work day, properly protect by K-Rail any materials or equipment left on the street. Where allowed by City permits, only one lane adjacent to the outside curb or center median will be allowed for storage of materials and equipment. When required by City Permits, remove all materials, equipment, K-Rails and other traffic control devices from the travel lanes.

The material that will be excavated during construction will consist mainly of soil, dirt, and concrete in which 80 percent will be backfilled with native material. Concrete, asphalt, and aluminum can be recycled. The other 20 percent will be excess soil which can benefit landfills by providing extra soil to cover the trash. Although only one-fifth or less of materials from the construction activity are likely to wind up in the regional landfill, any solid waste, including construction and demolition waste, will be reduced to the absolute minimum. Recyclable materials such as concrete, asphalt, and aluminum will be recycled. During peak hours, the construction-related traffic would be limited on major roads to minimize impacts on rush-hour traffic.

Construction contractor will prepare a Storm Water Pollution Prevention Plan (SWPPP) to prevent project-related storm water runoff into the waters of the United States. Best management practices would be followed to minimize impacts to waters of the United States. A Notice of Intent will be submitted to the State Water Resources Board (SWRB) prior to the

construction of the project. A qualified environmental person would monitor construction activities to ensure environmental commitments are followed during construction. In addition, West Basin Municipal Water District (WMBD) would coordinate with the Department of Transportation. No work during rainy days. No pollutant should be discharged into the storm drains. No contaminated material should be used for construction. No oil-grease discharge on project site or in the waters of the U.S. All applicable BMPs will be included in the Storm Water Pollution Prevention Plan. Construction contractor will obtain NPDES Permit.

During construction, if contaminated soil is found, the Corps would coordinate with the appropriate agencies. Guidelines provided by the resource agencies would be implemented to dispose contaminated materials at appropriate disposal sites. If the soil is not contaminated, it can either go back into the trench as fill or to the regional waste management site. A negligible impact on rainfall runoff is anticipated because the project will be trenched along city streets. No incremental increase in flows to the storm drain systems is expected. Best Management Practices would be utilized to control erosion and runoff from the project construction and would also be included in the SWPPP. Therefore, no contaminants would be discharged into the storm drains. Construction contractor will obtain a permit for oversize work on state right-of-way from Caltrans.

3.13 Pedestrian Traffic Control

3.13.1 Pedestrian Traffic

Unless otherwise shown on the plan, maintain and delineate a minimum of one 4-foot-wide pedestrian walkway along each public street at all times during construction. Maintain existing pedestrian accesses at intersections at all times. When existing crosswalks are blocked by construction activity, install signs directing pedestrian traffic to the nearest alternative crosswalk.

3.13.2 Construction Fence

Erect a fence or provide other means to preclude unauthorized entry to any open excavation during all nonworking hours on a 24-hour basis including weekends and holidays. Said fence shall be a minimum of 7 feet high around the entire excavation, consisting of a minimum 9-gage chain link type fence fabric and shall be sturdy enough to prohibit toppling by children or adults. There shall be no openings under the wire large enough for any child to crawl through. Lock any gates if no adult is in attendance. Place warning signs spaced on 50-foot centers on the outside of the fence with the statement "DEEP HOLE DANGER."

3.13.3 Special Considerations at Schools

When construction is within 500 feet of any elementary or high school crossing, place a guard at each school crossing during normal school hours whose prime responsibility is to provide safe guidance for children and adults past the construction area. When construction is within 500 feet of any preschool, plan, coordinate and facilitate the relocation and operation of the morning drop-off and afternoon pick-up area of the preschool.

3.14 Access to Adjacent Properties

3.14.1 General

Maintain reasonable access from public streets to all adjacent properties at all times during the Work. Prior to restricting normal access from public streets to adjacent properties, notify each resident, informing him or her of the nature of the access restriction, the approximate duration of the restriction, and the best alternate access route for that particular property.

All approaches to private driveways, driveways and intersecting streets shall be kept open to traffic at all times unless otherwise shown on the approved traffic control plans. Contractor shall inform all property owners and businesses a minimum of forty-eight hours prior to performing any construction which will impede the normal access to their property.

3.14.2 Commercial Access

The pipeline route passes restaurants, commercial, and office complex areas with driveway access from streets impacted by the Work. To minimize access restrictions to these driveways, either backfill, compact, and provide temporary pavement or provide steel plates or bridging sufficient to support vehicular traffic across the trench in front of these driveways during nonworking hours. Single access driveways may be closed only during construction activity within the driveway areas. Driveways for properties with more than one access point may be closed for the duration of construction activity within the limits of the property served by the driveway.

3.14.3 Emergency Access

Maintain access to police and fire stations at all times. Close only one driveway to a safety facility at any one time.

3.15 Permanent Traffic Control Devices

3.15.1 General

Existing permanent traffic control signs, barricades, and devices shall remain in effective operation unless a substitute operation is arranged for and approved as a portion of vehicular traffic control above. Traffic signal restoration work shall be in accordance with the referenced Standard Specifications and Special Provisions.

3.15.2 Traffic Signals

Coordinate Work for all traffic signal modifications necessitated by the traffic control plans such as, but not limited to covering traffic signal heads, realigning signal heads, and other hardware modifications. All equipment and controller modifications will be coordinated with the City with a minimum of 48-hours notice as specified in Paragraph 3.7.

3.15.3 Traffic Control Detection Loops

Traffic control detection loops have not been shown on the construction plans per field walk investigations, but are not guaranteed. Completely replace traffic control detection loops which are cut, removed, or otherwise disturbed for construction of the pipeline to the original position or as directed by the appropriate Agency. Perform all loop replacement work in conformance with the Standard Specifications and Special Provisions.

3.15.4 Traffic Signal Conduits and Wires

Replace traffic signal conduits damaged to the nearest pull box, including new wire, back to the terminal, and/or back to the signal controller to the satisfaction of the appropriate Agency before proceeding to the next construction phase. Splicing is not permitted.

Report all such damage immediately to the appropriate Agency.

3.15.5 Restriping of Streets

Do temporary restriping as required by the Owner. Remove any temporary painted striping required for traffic control during construction by wet sandblasting or method approved by the owning Agency. Temporary striping includes any striping required on any pavement replaced prior to the final surface course. Reinstall all permanent striping and markings in their original location. Replace any damaged or obliterated raised pavement markers in accordance with the City Standards.

3.15.6 Street Lighting

Disrupted or damaged street lighting systems shall be repaired or replaced to City of Torrance standards. Damaged street light conduit or cable shall be replaced from pole to pole within 48 hours.

-- End of Section --

SECTION TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01270

MEASUREMENT AND PAYMENT

PART 1 GENERAL

- 1.1 LUMP SUM PAYMENT ITEMS
- 1.2 SCHEDULE OF VALUES
 - 1.2.1 Price Breakdown
 - 1.2.2 Bid Breakdown
 - 1.2.3 Lump Sum Item Breakdown
- 1.3 WORK LISTED IN THE BIDDING SCHEDULE
 - 1.3.1 Mobilization and Demobilization
 - 1.3.2 Construct 24-inch Pipe
 - 1.3.3 Construct 12-inch PVC Pipe
 - 1.3.4 Construct 8-inch PVC Pipe
 - 1.3.5 Construct 6-inch PVC Pipe
 - 1.3.6 Construct 4-inch PVC Pipe
 - 1.3.7 Construct 4-inch Ductile Iron Pipe
 - 1.3.8 Tie-in Connection to Existing 30-inch Ductile Iron Pipeline
 - 1.3.9 45-inch Diameter Bore and Jack
 - 1.3.10 Construct 4-inch Air Release and Vacuum Valve Assembly
 - 1.3.11 Construct 2-inch Air Release and Vacuum Valve Assembly
 - 1.3.12 Construct 1-inch Air Release and Vacuum Valve Assembly
 - 1.3.13 Construct 4-inch Blow-off Assembly
 - 1.3.14 Construct Cathodic Protection
 - 1.3.15 Removal and Replacement of AC Pavement and Aggregate Base Course
 - 1.3.16 Removal and Replacement of PCC Pavement and Aggregate Base Course
 - 1.3.17 Removal and Replacement of Concrete Sidewalk, Concrete Cross Gutters, Concrete Spandrels, Concrete Curb, and Gutter
 - 1.3.18 Hydrostatic Testing and Disinfection
 - 1.3.19 Traffic Control
 - 1.3.20 Perform Exploratory Borings of Utilities Not Potholed During Design
 - 1.3.21 As-Built CADD Drawings
- 1.4 EXTRA BID ITEMS IN THE SCHEDULE OF WORK ITEMS (OPTIONAL)
 - 1.4.1 Excavation and Removal of Contaminated Soils
 - 1.4.2 Relocated Work Heading
 - 1.4.3 Overexcavation and Removal of Unsuitable Materials
- 1.5 WORK NOT LISTED IN THE SCHEDULE OF WORK ITEMS
 - 1.5.1 General Work Items
 - 1.5.2 Work Omitted

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

-- End of Section Table of Contents --

SECTION 01270

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.1 LUMP SUM PAYMENT ITEMS

Payment items for the work of this contract for which contract lump sum payments will be made are listed in the BIDDING SCHEDULE and described below. All costs for items of work, which are not specifically mentioned to be included in a particular lump sum or unit price payment item, shall be included in the listed lump sum item most closely associated with the work involved. The lump sum price and payment made for each item listed shall constitute full compensation for furnishing all plant, labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, meeting safety requirements, tests and reports, and for performing all work required for which separate payment is not otherwise provided.

1.2 SCHEDULE OF VALUES

1.2.1 Price Breakdown

Submit to the Engineer within 10 days after execution of the Contract a breakdown of each bid item in a form which will assist the Engineer in preparing the estimates for progress payments.

1.2.2 Bid Breakdown

Each pipe bid item shall be broken down with the following items as a minimum:

Item	Unit
Excavation	L.F.
Pipe delivery and storage	L.F.
Pipe, bedding, and installation	L.F.
Backfill and compaction	L.F.
Shoring	L.F.
Connections	EA.

1.2.3 Lump Sum Item Breakdown

Provide a breakdown of Lump Sum prices provided in the Bid. For use in preparing estimates of completed Work on which to base claims for partial payments, under each Lump Sum item in the Bid prepare an itemized breakdown of the Contract Price indicating quantities and unit prices for the various elements of the Work. The breakdown shall be a true representation of the Contract Price for Work covered by the specifications and drawings and shall be subject to acceptance by the Engineer. An unbalanced breakdown will not be acceptable. Values assigned to the price breakdown will be used only as a basis for partial payments and not as a basis for additions to or deletions from the Contract Price.

1.3 WORK LISTED IN THE BIDDING SCHEDULE

The unit prices and lump sum prices include full compensation for furnishing the labor, materials, tools, services, and equipment and doing all the work involved to complete the Work in the Contract Documents, and no additional compensation will be allowed. In addition, all applicable sales taxes, state and/or federal, and any other special taxes, patent rights or royalties shall be included in the prices quoted in this proposal.

1.3.1 Mobilization and Demobilization

*Work under **Mobilization** shall include preparatory and cleanup operations including, but not be limited to, those necessary for the movement of personnel, equipment, materials, and incidentals to the Project site, securing a temporary construction yard, developing a construction water supply, providing onsite sanitary facilities, performing exploratory excavation at the water main connection points and laterals, and maintaining the Project site in a safe and orderly manner during construction. This item also includes costs incurred for securing bonds, insurance and financing prior to beginning work. Mobilization and setup costs shall not exceed 10 percent of the total bid amount. Work included under **Mobilization** will be paid after all equipment has been mobilized to site and after, in the judgment of Owner, work has commenced. Any extension of time that may be granted by the Owner will not of itself constitute a claim for additional work.

Cleanup, Punchlist Items and Demobilization: **Demobilization** shall also include final cleanup at site, completing all punchlist work and removing all equipment and materials from the site. Payment for **Demobilization** will not be considered until all work is complete and accepted by District.

Payment shall be at the lump sum bid price.

1.3.2 Construct 24-inch Pipe

*Work under this item shall include, but not be limited to, furnishing and installing 24-inch diameter CML and taped wrapped with rock shield steel pipe at the locations shown on the Plans, including pipe, fittings, hardware, gaskets, insulating kits, exploratory excavation for utility conflicts, removal or protection of interfering portions of existing utilities or improvements, temporary or permanent support of existing improvements or utilities, construction staking, , trench excavation, bedding, slurry, backfill, compaction, gate valve, butterfly valves, **temporary bulkhead with 2-inch blow-off assembly**, operating nuts, operator extensions, valve boxes, valve covers, welding or restraints, continuity jumpers (bond wires), landscaping, sheeting, shoring and bracing or equivalent method for protection of life and limb in trenches and open excavation in conformance with applicable safety orders, dewatering, disposal, complete in place and all other work necessary to install steel pipe complete in place.

Payment shall be at the unit price bid per lineal foot in place measured along the longitudinal axis between the ends as installed.

1.3.3 Construct 12-inch PVC Pipe

*Work under this item shall include, but not be limited to, furnishing and installing all 12-inch diameter AWWA C-900 Class 200 PVC pipe at the locations shown on the Plans, including pipe, valving, ductile iron

fittings, tie-in connections to existing water distribution mains, hardware, gaskets, exploratory excavation for utility conflicts, removal or protection of interfering portions of existing utilities or improvements, temporary or permanent support of existing improvements or utilities, construction staking, trench excavation, bedding, slurry, backfill, compaction, restraints, butterfly valves, **temporary bulkhead with 2-inch blow-off assembly**, operating nuts, operator extensions, valve boxes, valve covers, landscaping, sheeting, shoring and bracing or equivalent method for protection of life and limb in trenches and open excavation in conformance with applicable safety orders, dewatering, disposal, complete in place, and all other work necessary to install pipe complete in place.

Payment shall be at the unit price bid per lineal foot in place measured along the longitudinal axis between the ends as installed.

1.3.4 Construct 8-inch PVC Pipe

*Work under this item shall include, but not be limited to, furnishing and installing all 8-inch diameter AWWA C-900 Class 200 PVC pipe at the locations shown on the Plans, including pipe, valving, ductile iron fittings, tie-in connections to existing water distribution mains, hardware, gaskets, exploratory excavation for utility conflicts, removal or protection of interfering portions of existing utilities or improvements, temporary or permanent support of existing improvements or utilities, construction staking, trench excavation, bedding, slurry, backfill, compaction, restraints, butterfly valves, **temporary bulkhead with 2-inch blow-off assembly**, operating nuts, operator extensions, valve boxes, valve covers, landscaping, sheeting, shoring and bracing or equivalent method for protection of life and limb in trenches and open excavation in conformance with applicable safety orders, dewatering, disposal, complete in place, and all other work necessary to install pipe complete in place.

Payment shall be at the unit price bid per lineal foot in place measured along the longitudinal axis between the ends as installed.

1.3.5 Construct 6-inch PVC Pipe

*Work under this item shall include, but not be limited to, furnishing and installing all 6-inch diameter AWWA C-900 Class 200 PVC pipe at the locations shown on the Plans, including pipe, valving, ductile iron fittings, tie-in connections to existing water distribution mains, hardware, gaskets, exploratory excavation for utility conflicts, removal or protection of interfering portions of existing utilities or improvements, temporary or permanent support of existing improvements or utilities, construction staking, trench excavation, bedding, slurry, backfill, compaction, restraints, butterfly valves, **temporary bulkhead with 2-inch blow-off assembly**, operating nuts, operator extensions, valve boxes, valve covers, landscaping, sheeting, shoring and bracing or equivalent method for protection of life and limb in trenches and open excavation in conformance with applicable safety orders, dewatering, disposal, complete in place, and all other work necessary to install pipe complete in place.

Payment shall be at the unit price bid per lineal foot in place measured along the longitudinal axis between the ends as installed.

1.3.6 Construct 4-inch PVC Pipe

*Work under this item shall include, but not be limited to, furnishing and installing all 4-inch diameter AWWA C-900 Class 200 PVC pipe at the

locations shown on the Plans, including pipe, valving, ductile iron fittings, tie-in connections to existing water distribution mains, hardware, gaskets, exploratory excavation for utility conflicts, removal or protection of interfering portions of existing utilities or improvements, temporary or permanent support of existing improvements or utilities, construction staking, trench excavation, bedding, slurry, backfill, compaction, restraints, butterfly valves, **temporary bulkhead with 2-inch blow-off assembly**, operating nuts, operator extensions, valve boxes, valve covers, landscaping, sheeting, shoring and bracing or equivalent method for protection of life and limb in trenches and open excavation in conformance with applicable safety orders, dewatering, disposal, complete in place, and all other work necessary to install pipe complete in place.

Payment shall be at the unit price bid per lineal foot in place measured along the longitudinal axis between the ends as installed.

1.3.7 Construct 4-inch Ductile Iron Pipe

Work under this item shall include, but not be limited to, furnishing and installing the 4-inch diameter ductile iron pipe at the locations shown on the Plans, including pipe, ductile iron fittings, tie-in connections to existing water distribution mains, hardware, gaskets, exploratory excavation for utility conflicts, removal or protection of interfering portions of existing utilities or improvements, temporary or permanent support of existing improvements or utilities, construction staking, trench excavation, bedding, slurry, backfill, compaction, restraints, butterfly valves, operating nuts, operator extensions, valve boxes, valve covers, landscaping, sheeting, shoring and bracing or equivalent method for protection of life and limb in trenches and open excavation in conformance with applicable safety orders, dewatering, disposal, complete in place, and all other work necessary to install pipe complete in place.

Payment shall be at the unit price bid per lineal foot in place measured along the longitudinal axis between the ends as installed.

1.3.8 Tie-in Connection to Existing 30-inch Ductile Iron Pipeline

Work under this item shall include, but not be limited to, connection of proposed 24-inch main to the existing 30-inch recycled water main by hot tap at the intersection of 190th Street and Crenshaw Boulevard, as shown on the Plans, including thrust blocks, restraints, tapping sleeves, valves, valve box, covers, valve operator, valve operator extension, fittings, couplings, hardware, gaskets, insulating kits, lining and coating, exploratory excavation for utility conflicts, removal or protection of interfering portions of existing utilities or improvements, temporary or permanent support of existing improvements or utilities, trench excavation, bedding, slurry, backfill, compaction, sheeting, shoring and bracing or equivalent method for protection of life and limb in trenches and open excavation in conformance with applicable safety orders, dewatering, disposal, complete in place, and all other work necessary to perform tie-in connection, complete in place.

Payment shall be at the lump sum price bid.

1.3.9 45-inch Diameter Bore and Jack

Work under this item shall include, but not be limited to, demolition, excavation, shoring, whaling, sheeting, shoring and bracing or equivalent method for protection of life and limb in trenches and open excavation in

conformance with applicable safety orders, complete in place, dewatering machinery, tools, crews, appurtenances, hauling, exploration for utility conflicts, removal or protection of existing utilities, steel casing, ventilation, lighting, boring and jack equipment, back fill, compaction, grout, skids, landscaping, and all other work necessary to install casing pipe and carrier pipe complete in place.

Payment shall be at the unit price bid per lineal foot in place measured along the longitudinal axis between the ends as installed.

1.3.10 Construct 4-inch Air Release and Vacuum Valve Assembly

***Deleted.**

1.3.11 Construct 2-inch Air Release and Vacuum Valve Assembly

Work under this item shall include, but not be limited to, furnishing and installing all air release/vacuum relief assemblies of the sizes and at the locations shown on the Plans, including combination air/vac valve, pipe, fittings, hardware, gaskets, insulating gaskets, wax tape wrap, valves, pipe outlet, meter box, concrete, air/vac valve enclosure, cathodic protection, exploratory excavation for utility conflicts, removal or protection of interfering portions of existing utilities or improvements, temporary or permanent support of existing improvements or utilities, trench excavation, bedding, slurry, backfill, compaction, dewatering, disposal, and all other work necessary to install air/vac valves complete in place.

Payment shall be at the unit price bid per each 2-inch air release and vacuum valve installed in place.

1.3.12 Construct 1-inch Air Release and Vacuum Valve Assembly

Work under this item shall include, but not be limited to, furnishing and installing all air release/vacuum relief assemblies of the sizes and at the locations shown on the Plans, including combination air/vac valve, pipe, fittings, hardware, gaskets, insulating kits, wax tape wrap, valves, pipe outlet, meter box, concrete, air/vac valve enclosure, cathodic protection, exploratory excavation for utility conflicts, removal or protection of interfering portions of existing utilities or improvements, temporary or permanent support of existing improvements or utilities, trench excavation, bedding, slurry, backfill, compaction, dewatering, disposal, and all other work necessary to install air/vac valves complete in place.

Payment shall be at the unit price bid per each 1-inch air release and vacuum valve installed in place.

1.3.13 Construct **4-inch** Blow-off Assembly

Work under this item shall include, but not be limited to, furnishing and installing all blow-off assemblies of the sizes and at the locations shown on the Plans, including valving, pipe, fittings, insulating kits, hardware, gaskets, concrete, enclosure, covers, exploratory excavation for utility conflicts, removal or protection of interfering portions of existing utilities or improvements, temporary or permanent support of existing improvements or utilities, trench excavation, bedding, slurry, backfill, compaction, dewatering, disposal, and all other work necessary to install blow-off assembly complete in place.

*Payment shall be at the unit price bid per each **4-inch** blow-off assembly installed in place.

1.3.14 Construct Cathodic Protection

Work under this item shall include, but not be limited to, furnishing and installing all cathodic protection measures as shown on the plans and described within the specifications. Items may include electrical test stations (ETS) and Anode Test Stations (ATS) including wiring, anodes, reference electrodes, insulating gasket kits, wax tape wrap, bonding wires, meter boxes, concrete pads, hardware, piping, trench excavation, borings, bedding, backfill, compaction and all other work necessary to install cathodic protection measures complete in place.

Payment shall be at the lump sum price provided in the bid.

1.3.15 Removal and Replacement of AC Pavement and Aggregate Base Course

Work under this item shall include, but not be limited to, sawcutting, and removal of existing pavement, disposal of removed materials, applying herbicides or weed killers, furnishing and installing aggregate base, slurry backfill, prime coat, tack coat, temporary and final asphalt concrete pavement, seal coat, applying paint for traffic striping and marking, and all other work necessary to replace existing paving removed as a result of construction.

Payment shall be made at the unit price bid per square foot of pavement installed.

1.3.16 Removal and Replacement of PCC Pavement and Aggregate Base Course

Work under this item shall include, but not be limited to, sawcutting, and removal of existing pavement, disposal of removed materials, applying herbicides or weed killers, furnishing, delivering, and placing materials, finishing, curing, grout, preformed expansion joints, field-molded sealants, water stops, reinforcing steel bars, wire reinforcement, furnishing and installing aggregate base, slurry backfill, temporary asphalt concrete pavement, rebar, portland cement concrete, roadway finish, applying paint for traffic striping and marking, and all other work necessary to replace existing paving removed as a result of construction.

Payment shall be made at the unit price bid per square foot of pavement installed.

1.3.17 Removal and Replacement of Concrete Sidewalk, Concrete Cross Gutters, Concrete Spandrels, Concrete Curb, and Gutter

Work under this item shall include, but not be limited to, sawcutting and removal of existing concrete sidewalk, Concrete Cross Gutters, Concrete Spandrels, concrete curb and gutter, disposal of removed materials, furnishing and installing concrete sidewalk, Concrete Cross Gutters, Concrete Spandrels, and concrete curb and gutter, furnishing, delivering, placing, finishing, curing, grout, preformed expansion joints, field-molded sealants, water stops, reinforcing steel bars, wire reinforcement, materials, equipment, plant and tools, labor, placement and removal or forms, applying paint for traffic striping and marking, and all other work necessary to replace existing concrete sidewalk, Concrete Cross Gutters, Concrete Spandrels, and concrete curb and gutter removed as a result of construction. No separate payment will be made for cementitious materials,

add mixtures, steel reinforcement dowels or tie backs, or for any joint materials.

Payment shall be made at the lump sum price provided in the bid.

1.3.18 Hydrostatic Testing and Disinfection

***Work under this item shall include hydrostatic testing of pipeline and any required disinfection, in accordance with the specifications complete in place. Work under this item shall include, but not be limited to, furnishing water for cleansing, testing, expelling water to an approved, permitted location, testing equipment, temporary test bulkheads, and re-performing the testing until satisfactory results are achieved.**

Payment shall be at the lump sum price bid.

1.3.19 Traffic Control

Work under this item shall include, but not be limited to, furnishing, installing, maintaining, and removing all traffic control devices, including signs, barricades, lights, cones, providing flaggers, and all other work necessary to provide vehicular and pedestrian traffic control in and around the construction site as shown on the Plans and required by regulatory agencies, complete.

Payment shall be at the lump sum bid price.

1.3.20 Perform Exploratory Borings of Utilities Not Potholed During Design

Work under this item shall include performing exploratory borings of utilities not potholed during design including, but not limited to, mobilization, traffic control, excavation, exposing existing utility, verifying horizontal and vertical location, backfill, compaction, pavement removal and replacement, traffic control, and all other work necessary to perform exploratory boring.

Payment shall be at the unit price bid per each pothole operation performed.

1.3.21 As-Built CADD Drawings

Work under this item shall include performing all work necessary to produce final as-built CADD drawings as specified, complete.

Payment shall be at the lump sum bid price.

1.4 EXTRA BID ITEMS IN THE SCHEDULE OF WORK ITEMS (OPTIONAL)

1.4.1 Excavation and Removal of Contaminated Soils

Work under this item shall include, but not be limited to excavation, disposal of contaminated soil at an approved disposal site, hauling and all other work necessary to remove contaminated soil and dispose at an approved disposal site. All work to be performed by and under the supervision of qualified and licensed personnel. Work item does not include treatment of contaminated soil.

***Payment shall be at the unit price bid per each cubic yard of contaminated soil excavated, removed from Project site, and hauled to approved disposal site. Payment shall also include providing, hauling, and installing import**

backfill material to backfill the removed material, excluding the pipe zone backfill for which payment is made under separate bid item for pipeline installation.

1.4.2 Relocated Work Heading

*Work under this item shall include relocating work heading to accommodate contaminated soil remediation work including, but not limited to, coordination of work with a contaminated soil remediation consultant/contractor during its "cleanup" operation, "leaping" the working heading if required, and all other work necessary to accommodate contaminated soil remediation work.

Payment shall be at the unit price bid amount per occurrence. Payment for installation of the pipelines, backfill, and restoration of surface improvements shall be paid at the unit price bid amount in the appropriate bid items as described above and no additional compensation will be allowed therefor.

1.4.3 Overexcavation and Removal of Unsuitable Materials

*Work under this item shall include, but not be limited to excavation, disposal of unsuitable material at an approved disposal site. The work shall also include the furnishing and placing, additional sheeting and bracing, dewatering, pumping, bailing, cleaning, and other incidentals necessary to complete work. **The work shall also include hauling and all other work necessary to remove unsuitable materials and dispose at an approved disposal site.**

*Payment shall be at the unit price bid per each cubic yard of overexcavated **unsuitable materials**, removed from Project site, and hauled to approved disposal site. **Payment shall also include providing, hauling, and installing import backfill material to backfill the removed material, excluding the pipe zone backfill for which payment is made under separate bid item for pipeline installation.**

1.5 WORK NOT LISTED IN THE SCHEDULE OF WORK ITEMS

1.5.1 General Work Items

The General Specifications and items in the Special Provisions, general requirements, and specifications which are not listed in the schedule of work items of the bid are, in general, applicable to more than one listed work item, and no separate work item is provided therefor. Include the cost of Work not listed but necessary to complete the Project designated in the Contract Documents in the various listed work items on the bid.

1.5.2 Work Omitted

The bid for the Work is intended to establish a total cost for the Work in its entirety. Should the Contractor feel that the cost for the Work has not been established by specific items in the bid, include the cost for that Work in some related bid item so that the bid reflects the total cost for completing the Work in its entirety.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

-- End of Section --

SECTION TABLE OF CONTENTS

DIVISION 02 - SITE WORK

SECTION 02316

EXCAVATION, TRENCHING, AND BACKFILLING FOR UTILITIES SYSTEMS

PART 1 GENERAL

- 1.1 REFERENCES
- 1.2 DEGREE OF COMPACTION
- 1.3 SUBMITTALS

PART 2 PRODUCTS

- 2.1 MATERIALS
 - 2.1.1 Satisfactory Materials
 - 2.1.2 Unsatisfactory Materials
 - 2.1.3 Cohesionless and Cohesive Materials
 - 2.1.4 Unyielding Material
 - 2.1.5 Unstable Material
 - 2.1.6 Gravel and Crushed Rock - Pipe Zone
 - 2.1.7 Slurry Cement
 - 2.1.8 Pea Gravel
 - 2.1.9 Water for Compaction
- 2.2 PLASTIC MARKING TAPE
- 2.3 Detection Wire For Non-Metallic Piping

PART 3 EXECUTION

- 3.1 EXCAVATION
 - 3.1.1 Trench Excavation Requirements
 - 3.1.1.1 Bottom Preparation
 - 3.1.1.2 Removal of Unyielding Material
 - 3.1.1.3 Removal of Unstable Material
 - 3.1.1.4 Excavation for Appurtenances
 - 3.1.1.5 Dewatering
 - 3.1.1.6 Jacking, Boring, and Tunneling
 - 3.1.2 Stockpiles
 - 3.1.3 Storage of Excavated Material
 - 3.1.4 Excess Material
 - 3.1.5 Length of Open Trench
 - 3.1.6 Traffic Plates
 - 3.1.6.1 General Conditions
 - 3.1.6.2 Installation
- 3.2 BACKFILLING AND COMPACTION
 - 3.2.1 Trench Backfill
 - 3.2.1.1 Replacement of Unyielding Material
 - 3.2.1.2 Replacement of Unstable Material
 - 3.2.1.3 Bedding and Initial Backfill - Pipe Zone
 - 3.2.1.4 Final Backfill
 - 3.2.1.5 Imported Material
 - 3.2.1.6 Moisture Content of Backfill Material
 - 3.2.2 Backfill for Appurtenances
- 3.3 SPECIAL REQUIREMENTS

- 3.3.1 Recycled Water Lines
- 3.3.2 Plastic Marking Tape
- 3.4 TESTING
 - 3.4.1 Testing Facilities
 - 3.4.2 Testing of Backfill Materials
 - 3.4.3 Field Density Tests
 - 3.4.4 Soil Moisture-Density Relationship
 - 3.4.5 Cohesionless Materials
 - 3.4.6 Sampling
 - 3.4.7 Relative Compaction
 - 3.4.8 Compaction Compliance

-- End of Section Table of Contents --

SECTION 02316

EXCAVATION, TRENCHING, AND BACKFILLING FOR UTILITIES SYSTEMS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM D 75	(1997) Sampling Aggregates
ASTM D 1556	(2000) Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D 1557	(2000) Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/cu. ft. (2,700 kN-m/cu.m.))
ASTM D 2167	(1994) Density and Unit Weight of Soil in Place by the Rubber Balloon Method
ASTM D 2434	(1968; R 2000) Permeability of Granular Soils (Constant Head)
ASTM D 2487	(2000) Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D 2922	(2001) Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
ASTM D 3017	(2001) Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth)
ASTM D 4253	(2000) Maximum Index Density and Unit Weight of Soils Using a Vibratory Table
ASTM D 4254	(2000) Minimum Index Density and Unit Weight of Soils and Calculation of Relative Density

1.2 DEGREE OF COMPACTION

Degree of compaction shall be expressed as a percentage of the maximum density obtained by the test procedure presented in ASTM D 1557.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-06 Test Reports

Field Density Tests;
Testing of Backfill Materials;

Copies of all laboratory and field test reports within 24 hours of the completion of the test.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Satisfactory Materials

Satisfactory materials shall comprise any materials classified by ASTM D 2487 as GW, GM, GW-GM, GC, GM-GC, SW, SP, SM, ML.

2.1.2 Unsatisfactory Materials

Materials which do not comply with the requirements for satisfactory materials are unsatisfactory. Unsatisfactory materials also include man-made fills, trash, refuse, or backfills from previous construction. Unsatisfactory material also includes material classified as satisfactory which contains root and other organic matter, frozen material, and stones larger than 1 inch. The Contracting Officer shall be notified of any contaminated materials.

2.1.3 Cohesionless and Cohesive Materials

Cohesionless materials shall include materials classified in ASTM D 2487 as GW, GP, SW, and SP. Cohesive materials shall include materials classified as GC, SC, ML, CL, MH, and CH. Materials classified as GM and SM shall be identified as cohesionless only when the fines are nonplastic.

2.1.4 Unyielding Material

Unyielding material shall consist of rock and gravelly soils with stones greater than 12 inches in any dimension or as defined by the pipe manufacturer, whichever is smaller.

2.1.5 Unstable Material

Unstable material shall consist of materials too wet to properly support the utility pipe, conduit, or appurtenant structure.

2.1.6 Gravel and Crushed Rock - Pipe Zone

Gravel or crushed rock material shall meet the following gradation:

<u>Designated Material Size</u>		
1 Inch	3/4 Inch	3/8 Inch
Percent	Percent	Percent

Sieve Sizes	<u>Designated Material Size</u>		
	1 Inch	3/4 Inch	3/8 Inch
	Passing	Passing	Passing
2 inches	---	---	---
1-1/2 inches	100	---	---
1 inch	90 - 100	100	---
3/4 inch	30 - 60	90 - 100	---
1/2 inch	0 - 20	30 - 60	100
3/8 inch	---	0 - 20	90 - 100
No. 4	0 - 5	0 - 5	30 - 60
No. 8	---	---	0 - 10
ASTM C 131 Test Grading	A	B	C

2.1.7 Slurry Cement

Sand-Cement Slurry Refill Material for Foundation stabilization in Base and Pipe Zone and Backfill Material for Trench Zone.

Sand-cement slurry shall consist of one sack (94 pounds) of Portland cement per cubic yard of sand and sufficient moisture for workability.

2.1.8 Pea Gravel

Pea gravel shall be defined as gravel, uniformly graded from coarse to fine with less than 10 percent passing a No. 200 sieve, less than 50 percent passing a No. 4 sieve, and having a maximum particle size of 3/4 inch.

2.1.9 Water for Compaction

Water used in compaction shall have a maximum chloride concentration of 500 mg/l, a maximum sulfate concentration of 500 mg/l, and shall have a pH of 7.0 to 9.0. Water shall be free of acid, alkali, or organic materials injurious to the pipe coatings.

2.2 PLASTIC MARKING TAPE

Plastic marking tape shall be acid and alkali-resistant polyethylene film, 6 inches wide with minimum thickness of 0.004 inch. Tape shall have a minimum strength of 1750 psi lengthwise and 1500 psi crosswise. The tape shall be manufactured with integral wires, foil backing or other means to enable detection by a metal detector when the tape is buried up to 3 feet deep. The tape shall be of a type specifically manufactured for marking and locating underground utilities. The metallic core of the tape shall be encased in a protective jacket or provided with other means to protect it from corrosion. Tape color shall be as specified in TABLE 1 and shall bear a continuous printed inscription describing the specific utility.

TABLE 1. Tape Color

Red:	Electric
Yellow:	Gas, Oil, Dangerous Materials
Orange:	Telephone, Telegraph, Television, Police, and Fire Communications
Blue:	Water Systems
Green:	Sewer Systems
Purple:	Recycled Water System

2.3 Detection Wire For Non-Metallic Piping

Detection wire shall be insulated single strand, solid copper with a minimum diameter of 12 AWG.

PART 3 EXECUTION

3.1 EXCAVATION

Excavation shall be performed to the lines and grades indicated with allowance for pipe thickness and pipe base. Rock excavation shall include removal and disposition of material defined as rock in paragraph MATERIALS.

Earth excavation shall include removal and disposal of material not classified as rock excavation. During excavation, material satisfactory for backfilling shall be stockpiled in an orderly manner on the high side of the trench at a distance from the banks of the trench equal to 1/2 the depth of the excavation, but in no instance closer than 2 feet. Excavated material not required or not satisfactory for backfill shall be removed from the site. Grading shall be done as may be necessary to prevent surface water from flowing into the excavation, and any water accumulating shall be removed to maintain the stability of the bottom and sides of the excavation. Unauthorized overexcavation shall be backfilled in accordance with paragraph BACKFILLING AND COMPACTION at no additional cost to the Government.

3.1.1 Trench Excavation Requirements

*The trench shall be excavated as shown on the Contract documents. Trench walls below the top of the pipe shall be sloped, or made vertical, and of such width as recommended in the manufacturer's installation manual. Vertical trench walls more than **5 feet** high shall be shored. Trench walls which are cut back shall be excavated to at least the angle of repose of the soil. Special attention shall be given to slopes which may be adversely affected by weather or moisture content. The trench width below the top of pipe shall not exceed **16 inches** plus pipe outside diameter (O.D.) for pipes **between 4 to 12 inches** inside diameter and shall not exceed 24 inches plus pipe outside diameter for sizes larger than 12 inches inside diameter. Where recommended trench widths are exceeded at a point 12 inches above the pipe bell, redesign, stronger pipe, or special installation procedures shall be utilized by the Contractor. The cost of redesign, stronger pipe, or special installation procedures shall be borne by the Contractor without any additional cost to the Government. Trenches shall have sheeting shoring, and bracing conforming to CAL/OSHA requirements and General Provisions

3.1.1.1 Bottom Preparation

The bottoms of trenches shall be accurately graded to provide uniform bearing and support for the bottom quadrant of each section of the pipe. Bell holes shall be excavated to the necessary size at each joint or coupling to eliminate point bearing. Stones of 2 inches or greater in any dimension, or as recommended by the pipe manufacturer, whichever is smaller, shall be removed to avoid point bearing.

3.1.1.2 Removal of Unyielding Material

Where overdepth is not indicated and unyielding material is encountered in the bottom of the trench, such material shall be removed 6 inches below the required grade and replaced with suitable materials as provided in paragraph BACKFILLING AND COMPACTION.

3.1.1.3 Removal of Unstable Material

*After the required excavation has been completed, the **COR** Inspector shall inspect the exposed trench subgrade to determine the need for any additional excavation. It is the intent that additional excavation shall be conducted in all areas within the influence of the pipeline where unacceptable materials exist at the exposed subgrade. Overexcavation shall include the removal of all such unacceptable material that exists directly beneath the pipe base and to the depth required. The presence of unacceptable material may require excavating a wider trench. Show the width and depth of overexcavation on the drawings. Backfill the overexcavated portion of the trench to the subgrade of the pipe base with refill material for foundation stabilization. Place foundation stabilization material over the full width of the excavation and compacted in layers not exceeding 6-inches in depth, to the required grade. Replace unstable material to the proper grade with select granular material as provided in paragraph BACKFILLING AND COMPACTION. When removal of unstable material is required due to the Contractor's fault or neglect in performing the work, the resulting material shall be excavated and replaced by the Contractor without additional cost to the Government.

3.1.1.4 Excavation for Appurtenances

Excavation for manholes, handholes, utility boxes, catch-basins, inlets, or similar structures shall be sufficient to leave at least 12 inches clear between the outer structure surfaces and the face of the excavation or support members. Rock shall be cleaned of loose debris and cut to a firm surface either level, stepped, or serrated, as shown or as directed. Loose disintegrated rock and thin strata shall be removed. Removal of unstable material shall be as specified above. When concrete or masonry is to be placed in an excavated area, special care shall be taken not to disturb the bottom of the excavation. Excavation to the final grade level shall not be made until just before the concrete or masonry is to be placed.

3.1.1.5 Dewatering

Means and Devices: Provide and maintain suitable means and devices to continuously remove and dispose of all water entering the trench excavation during the time the trench is being prepared for the pipe laying, during the laying of the pipe, and until the backfill at the pipe zone has been completed. These provisions shall apply during the noon hour as well as overnight. Dispose of water in a manner to prevent damage to adjacent property. Do not drain trench water through the pipeline under construction. Do not allow groundwater to rise around the pipe until jointing compound has firmly set.

Notification: Notify the Owner 48 hours prior to commencement of dewatering. Methods employed shall be in conformance with the NPDES permit.

3.1.1.6 Jacking, Boring, and Tunneling

Unless otherwise indicated, excavation shall be by open cut except that sections of a trench may be jacked and bored as noted on the Construction Plans.

3.1.2 Stockpiles

Stockpiles of satisfactory material shall be placed and graded as specified. Stockpiles shall be kept in a neat and well drained condition, giving due consideration to drainage at all times. The ground surface at stockpile locations shall be cleared, grubbed, and sealed by rubber-tired equipment, excavated satisfactory and unsatisfactory materials shall be separately stockpiled. Stockpiles of satisfactory materials shall be protected from contamination which may destroy the quality and fitness of the stockpiled material. If the Contractor fails to protect the stockpiles, and any material becomes unsatisfactory, such material shall be removed and replaced with satisfactory material from approved sources at no additional cost to the Government. Stockpiles of satisfactory materials shall be in supporting Contractor-supplied storage or staging areas subject to prior approval of the Contracting Officer.

3.1.3 Storage of Excavated Material

During trench excavation, store excavated material only within the Work area. Do not obstruct roadways or streets. The safe loading of trenches with excavated material shall conform to Laws and Regulations.

3.1.4 Excess Material

Remove and dispose of excess excavated soil material off the sites at no additional expense to the Owner. Dispose of excess soil material in accordance with Laws and Regulations.

3.1.5 Length of Open Trench

Trenching should be performed in short (less than 200-foot) sections to reduce sand-raveling potential that may cause trench subsidence. Each 200-foot section should be properly shored prior to excavation of the next segment.

The length of open trench shall be limited to 600 feet in advance of pipe laying or amount of pipe installed in one working day. Complete backfilling and temporary or first layer paving so that not more than 500 feet of trench is open in the rear of pipe laying. Backfill or adequately bridge sidewalks, driveways and other traveled ways to provide safe access and egress at the completion of each day's Work.

3.1.6 Traffic Plates

3.1.6.1 General Conditions

Cover access holes excavated in paved streets with steel plates until resurfacing has been completed. The steel plates may be removed during the work day at locations where entry is required but shall be replaced at the end of the work day; they shall be of a type that will support all types of vehicular traffic at the project site(s) and shall incorporate a means to prevent displacement of the plate by traffic vibration.

3.1.6.2 Installation

The steel plate shall overlap the maximum dimensions of any excavation to provide a minimum of 12 inches of bearing between the pavement surface and the plate, and shall consist of a single piece of steel plate to cover each excavation. If the dimensions of the excavations are such that a minimum 12-inch bearing between the pavement surface and the plate cannot be achieved, additional plates may be used upon the approval of the Engineer.

To prevent inflow of surface water and excessive vibration, place and maintain a berm of temporary resurfacing material, not less than the thickness of the steel plate, around the entire perimeter. Maintain the berms daily and make available a stockpile of temporary resurfacing material at the site(s) during the entire period that plates are in use. The installation of steel plate shall in no way relieve the Contractor from the responsibility of installing proper and adequate barricades and warning devices adjacent to and around the excavations.

3.2 BACKFILLING AND COMPACTION

Backfill material shall consist of satisfactory material, select granular material, or initial backfill material as required. Backfill shall be placed in layers not exceeding 6 inches loose thickness for compaction by hand operated machine compactors, and 8 inches loose thickness for other than hand operated machines, unless otherwise specified. Unless specified otherwise, do not consolidate by jetting or flooding. Do not use high impact hammer-type equipment except where the pipe manufacturer warrants in writing that such use will not damage the pipe. Each layer shall be compacted to at least 95 percent maximum density for cohesionless soils and 90 percent maximum density for cohesive soils, unless otherwise specified.

3.2.1 Trench Backfill

Trenches shall be backfilled to the grade shown.

3.2.1.1 Replacement of Unyielding Material

Unyielding material removed from the bottom of the trench shall be replaced with select granular material or initial backfill material.

3.2.1.2 Replacement of Unstable Material

Unstable material removed from the bottom of the trench or excavation shall be replaced with select granular material placed in layers not exceeding 6 inches loose thickness.

3.2.1.3 Bedding and Initial Backfill - **Pipe Zone**

Bedding shall be of the type and thickness shown. Initial backfill material shall be placed and compacted with approved tampers to a height of at least one foot above the utility pipe or conduit. The backfill shall be brought up evenly on both sides of the pipe for the full length of the pipe. Care shall be taken to ensure thorough compaction of the fill under the haunches of the pipe. After the pipe has been bedded, place pipe zone material simultaneously on both sides of the pipe, keeping the level of backfill the same on each side. Carefully place material around the pipe so that the pipe barrel is completely supported and that no voids or uncompacted areas are left beneath the pipe. Particular care shall be taken in placing material on the underside of the pipe to prevent lateral movement during subsequent backfilling. Compact material placed around the pipe zone by hand tamping only. Carefully deposit backfill material onto the backfill previously placed around the pipe. Do not permit free fall of the material until at least 2 feet of cover is provided over the top of the pipe. Do not drop sharp, heavy pieces of material directly onto the pipe or the tamped material around the pipe.

3.2.1.4 Final Backfill

The remainder of the trench, except for special materials for roadways, shall be filled with satisfactory material. Street zone backfill shall be done in accordance with the requirements and to the satisfaction of the agency having jurisdiction. Backfill material shall be placed and compacted as follows:

- a. Roadways: Backfill shall be placed up to the elevation at which the base course for the roadway begins as detailed on the construction documents. Water flooding or jetting methods of compaction will not be permitted.
- b. Sidewalks, Turfed or Seeded Areas and Miscellaneous Areas: Backfill shall be deposited in layers of a maximum of 12 inch loose thickness, and compacted to 85 percent maximum density for cohesive soils and 90 percent maximum density for cohesionless soils. Compaction by water flooding or jetting will not be permitted. This requirement shall also apply to all other areas not specifically designated above.
- c. Areas Below Existing Utility Crossings: The final backfill shall be replaced with slurry cement from the initial backfill and bedding to the spring line of the crossing utility. The backfill shall be replaced along the proposed alignment to 1 foot either side of the crossing utility. Backfill above the crossing utility spring line to the roadway section shall be per the standard final backfill.

3.2.1.5 Imported Material

Import, place and compact any additional backfill material necessary to return all grades to plus or minus 0.2 feet from the grade encountered at the beginning of construction or as shown on the Contract Drawings, at no additional cost to the Owner.

3.2.1.6 Moisture Content of Backfill Material

During the compacting operations, maintain optimum practicable moisture content required for compaction purposes in each lift of the backfill material. Maintain moisture content throughout the lift at a uniform level. If placement is discontinued and proper moisture content not maintained, bring the upper layer back to proper moisture content by sprinkling, cultivating and rolling the backfill material before placing new material. At the time of compaction, the water content of the material shall be at optimum water content plus or minus two percentage points. Do not work material which contains excessive moisture to obtain the required compaction. Material having excessive moisture content may be dried by blading, discing, or harrowing to hasten the drying process.

3.2.2 Backfill for Appurtenances

After the manhole, catch basin, inlet, thrust block, or similar structure has been constructed and the concrete has been allowed to cure for 3 days, backfill shall be placed in such a manner that the structure will not be damaged by the shock of falling earth. The backfill material shall be deposited and compacted as specified for final backfill, and shall be brought up evenly on all sides of the structure to prevent eccentric loading and excessive stress.

3.3 SPECIAL REQUIREMENTS

Special requirements for both excavation and backfill relating to the specific utilities are as follows:

3.3.1 Recycled Water Lines

Trenches shall be of a depth to provide a minimum cover of 4.0 feet from the existing ground surface, or from the indicated finished grade, whichever is lower, to the top of the pipe.

3.3.2 Plastic Marking Tape

Warning tapes with wires shall be installed directly on the pipe and above the pipe, at a depth of 128 inches above pipe per West Basin Municipal Water District standard RW15.

3.4 TESTING

Testing shall be the responsibility of the Contractor and shall be performed at no additional cost to the Government.

3.4.1 Testing Facilities

Tests shall be performed by an approved commercial testing laboratory or may be tested by facilities furnished by the Contractor. No work requiring testing will be permitted until the facilities have been inspected and approved by the Contracting Officer.

3.4.2 Testing of Backfill Materials

Classification of backfill materials shall be determined in accordance with ASTM D 2487 and the moisture-density relations of soils shall be determined in accordance with ASTM D 1557. A minimum of one soil classification and one moisture-density relation test shall be performed on each different type of material used for bedding and backfill. Test all imported or native materials before the start of compaction operations to determine the moisture density relationship for materials with cohesive components, and the maximum density for cohesionless materials. Variations in imported or native earth materials may require a number of base curves of the moisture-density relationship.

3.4.3 Field Density Tests

Tests shall be performed in sufficient numbers to ensure that the specified density is being obtained. A minimum of one field density test per lift of backfill for every 200 feet of installation shall be performed. One moisture density relationship shall be determined for every 1500 cubic yards of material used. Field in-place density shall be determined in accordance with ASTM D 1556 or ASTM D 2922. When ASTM D 2922 is used, the calibration curves shall be checked and adjusted using the sand cone method as described in paragraph Calibration of the ASTM publication. ASTM D 2922 results in a wet unit weight of soil and when using this method, ASTM D 3017 shall be used to determine the moisture content of the soil. The calibration curves furnished with the moisture gauges shall be checked along with density calibration checks as described in ASTM D 3017. The calibration checks of both the density and moisture gauges shall be made at the beginning of a job, on each different type of material encountered, at intervals as directed by the Contracting Officer. Copies of calibration curves, results of calibration tests, and field and laboratory density

tests shall be furnished to the Contracting Officer. Trenches improperly compacted shall be reopened to the depth directed, then refilled and compacted to the density specified at no additional cost to the Government.

3.4.4 Soil Moisture-Density Relationship

Determine the laboratory moisture-density relations of soils shall be determined per ASTM D 1557.

3.4.5 Cohesionless Materials

Determine the relative density of cohesionless materials by ASTM D 4253 and ASTM D 4254.

3.4.6 Sampling

Sample backfill materials per ASTM D 75.

3.4.7 Relative Compaction

Express "relative compaction" as the ratio, expressed as a percentage, of the in place dry density to the laboratory maximum dry density.

3.4.8 Compaction Compliance

Compaction shall be deemed to comply with the Specifications when none of the tests falls below the specified relative compaction. When tests are to be conducted by the Owner, notify the Department 24-hours in advance of when backfill lifts are ready for testing, and pay the costs of any retesting of Work not conforming to the Specifications.

-- End of Section --